THE JOURNAL OF AIR LAW AND COMMERCE

Volume 10 APRIL, 1939 Number 2

BRUSSELS AIR LAW CONFERENCE

STEPHEN LATCHFORD*

The Fourth International Conference on Private Air Law (diplomatic conference) was held at Brussels, September 19-30, 1938, on the invitation of the Belgian Government, for the purpose of taking definitive action on several projects prepared in preliminary form by the International Technical Committee of Aerial Legal Experts (CITEJA)[1].

According to information furnished by the Secretariat of the Conference, delegations representing the following countries participated in the work of the Conference:

United States of America, Germany, Australia, Belgium, Bolivia, Brazil, Canada, Chile, China, Denmark, Dominican Republic, Ecuador, Spain, Finland, France, Great Britain, Greece, Guatemala, Hungary, Italy, Japan, Luxemburg, Mexico, Norway, The Netherlands, Poland, Rumania, San Marino, The Holy See, Sweden, Switzerland, and Czechoslovakia.

Each of the following countries was represented by an observer: Argentina, Bulgaria, Lithuania, Siam and Yugoslavia.

A representative of the League of Nations and a representative of the International Commission for Air Navigation (CINA) were present at the Conference in an advisory capacity.

The American Delegation consisted of the following personnel:

Delegates

G. Grant Mason, Jr., Member of the Civil Aeronautics Authority, *Chairman of the Delegation;*

Stephen Latchford, Department of State, *Vice Chairman of the Delegation;*

---

* Chief, Aviation Section, Division of International Communications, Department of State; Chairman, American Section of the CITEJA.

1. See "The History and Accomplishments of the International Technical Committee of Aerial Legal Experts (CITEJA)" by John J. Ide, 3 JOURNAL OF AIR LAW 27. See also "The Warsaw Convention and the CITEJA" by the writer, 1 JOURNAL OF AIR LAW 79, and "Developments in the Codification of Private International Air Law" by the writer, 7 JOURNAL OF AIR LAW 202.

Denis Mulligan, Consulting Counsel on International Aviation, Civil Aeronautics Authority.

Technical Advisers

Laurel E. Anderson, Legal Adviser of the Maritime Commission at London;
Captain L. T. Chalker, Chief Aviation Officer, United States Coast Guard;
Arnold W. Knauth, admiralty lawyer;
J. Brooks B. Parker, aviation insurer.

Secretary

Edward T. Wailes, Second Secretary, American Embassy, Brussels.

Technical Assistants

John Jay Ide, Technical Assistant in Europe for the National Advisory Committee for Aeronautics;
Arthur L. Lebel, Department of State.

There were submitted to the Brussels Conference two draft international conventions and certain recommendations on aviation insurance prepared by the CITEJA. These were as follows:

Draft of Convention for the Unification of Certain Rules Relating to Assistance and Salvage of Aircraft or by Aircraft at Sea, CITEJA Document 319, adopted by the CITEJA at its Eleventh Plenary Session held at Bern, Switzerland, in September, 1936.[2]

Draft of Convention for the Unification of Certain Rules Relating to Aerial Collisions, CITEJA Document 320, adopted by the CITEJA at its Eleventh Plenary Session held at Bern, Switzerland, in September, 1936.[3]

Draft Protocol on Aviation Insurance,[4] supplementing the Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third Parties on the Surface, signed at Rome on May 29, 1933.[5]

Proposals for the amendment of the CITEJA projects referred to the Brussels Conference were submitted by various delegations, including the American Delegation, which participated in the discussions conducted by the Conference with a view to including the suggested amendments in the final drafts approved by the Conference, in so far as the Conference was willing to adopt these suggestions. The American Delegation was very successful in the presentation of its proposals.

It will not be possible in the present summary of the results of the Brussels Conference to discuss all the proposals submitted by the American Delegation on each of the projects considered at Brussels.

2. For translation of draft, see 8 JOURNAL OF AIR LAW 345-350; also Department of State Treaty Information Bulletin, No. 92, May, 1937, pp. 26-30.
3. For translation, see 8 JOURNAL OF AIR LAW 320-325; also Department of State Treaty Information Bulletin No. 92, May, 1937, pp. 30-35.
4. For translation of Protocol, see 9 JOURNAL OF AIR LAW 599-601; also Department of State Treaty Information Bulletin No. 105, June, 1938, p. 202.
5. For translation of Rome Convention on Third Party Liability, see 8 JOURNAL OF AIR LAW 312-319; also Department of State Treaty Information Bulletin No. 47, August, 1933, pp. 27-36.

However, references will be made to a sufficient number of such proposals to give the reader an idea of the attitude of the Delegation with regard to many of the major questions which came before the Conference.

Language Proposal

On the opening of the Conference the American Delegation proposed the adoption of a bilingual system under which it would be permissible to use both English and French on an equal basis in all the oral discussions of the Conference, with the understanding that the statements in French would be translated into English and that any statements in English would be translated into French. The Conference decided that any delegation might present its proposals in its own language, provided it furnished an interpreter to translate such proposals into French, and that any delegation might have its interpreter translate into its own language any important statements made in French by members of the Conference or any resolutions on which the Conference might be called upon to take action. The American Delegation had interpreters who could perform these services for the Delegation.

Draft Convention on Assistance and Salvage of Aircraft or by Aircraft at Sea (Citeja Document 319)[6]

The American Delegation made an effort to have the Conference remove the obligation to render assistance, placed on commanders of aircraft under Article 2 of the CITEJA draft convention, and to have such assistance placed on a voluntary basis, with the understanding that indemnity and remuneration as provided for in the draft would be allowed in the case of voluntary assistance. The Delegation stated in this connection that Article 2 of the CITEJA draft as presented to the Conference imposed a responsibility on the commanders of aircraft in reaching a decision in an emergency in a situation in which there has been little experience to guide them; that it was true that the commander of the aircraft was not obliged under Article 2 of the CITEJA draft to endeavor to render assistance if to do so would impose serious danger on the aircraft or persons on board, but that in the present state of development of international air navigation it is probable that in the vast majority of cases there would be serious danger, especially in view of the hazards to aircraft alighting and taking off at sea, and also

6. See footnote 2.

because of the limited fuel capacity of aircraft. Although the Conference did not remove the obligation placed upon the commanders of aircraft to assist, it adopted the following new provision inserted as paragraph (3) of Article 2 of the salvage convention as finally signed at Brussels in September, 1938, which will render it possible to take into account the different conditions under which maritime navigation and air navigation operate:

"For the purposes of this Convention, assistance shall mean any help which may be given to a person who is at sea in danger of being lost, even by merely giving information, consideration being given to the different conditions under which maritime navigation and air navigation operate."

The following two methods were included in Article 3 of the CITEJA draft convention for determining the limitation of the amount of indemnity for expenses incurred by the salvor: (1) the number of persons saved and (2) the value of the aircraft assisted, as determined by its weight. The American Delegation proposed that the complicated weight formula be omitted, as being entirely unnecessary. This proposal was adopted by the Conference.

Article 3 of the CITEJA draft provided that the indemnity payable by the operator of the aircraft assisted or by the owner or armateur of the vessel assisted, based on expenses incurred and damage suffered by the salvor in the operations of assistance, could not exceed the sum of 125,000 gold francs per person saved, or, if no persons were saved, the total sum of 125,000 gold francs. Then followed the weight formula applicable to the aircraft assisted. It was further provided that the limitation of the obligation of the operator of the aircraft assisted for indemnity would not be greater than two million gold francs. The American Delegation considered that the limitation of two million francs was too high, and that it should be reduced to one million gold francs. It was pointed out in this connection that the largest salvage award on record of which the Delegation was aware approximated roughly only about two-thirds of the sum of two million gold francs.

As stated above, the Conference adopted the American proposal for the elimination of the weight formula as applied to aircraft, but it reduced the limitation of liability for indemnity as expressed in francs from two million gold france to 500,000 instead of to one million gold francs, as had been suggested by the American Delegation. The Conference also reduced the limitation of liability for indemnity for each person saved, and in a case where no person had been saved, from 125,000 gold francs in each case to 50,000 gold francs. The right to an indemnity or reimbursement for expenses incurred by the salvor has not been specifically provided for, in

addition to remuneration, in the maritime law of salvage. This innovation may be necessary for the reason that as applied to assistance to aircraft in distress, the saving of life will result more often than the saving of property.

The American Delegation proposed that there be inserted in Article 4 of the CITEJA draft a provision which would render it possible for the personnel of the salvor aircraft, as well as the operator of such aircraft, to share in the remuneration for salvage services. Although the salvage convention as finally adopted and signed at Brussels does not specifically provide for the sharing of remuneration by the personnel of the assisting aircraft, it contains a new provision (Article 6) which renders it possible for the matter to be determined by the national laws.

As common ownership salvage has become very important in modern times, the American Delegation proposed that a provision on the subject be inserted in Article 4 (relating to remuneration) of the CITEJA draft salvage convention. The Conference adopted the substance of the American proposal by including the following new provision as Paragraph (4) of Article 4 of the convention as finally adopted and signed at Brussels:

"Remuneration is due even when the aircraft or the vessels belong to the same operator or to the same owner or armateur."

Article 7 of the CITEJA draft provided that remuneration due for the operations of assistance or salvage would be payable by the operator of the assisted aircraft or the owner or armateur of the assisted vessel; that the operator of the aircraft would have a recourse against the owner of goods for such part of the remuneration as pertained to the assistance and salvage of such goods; and that the recourse of the owner or armateur of the vessel against the owners of goods would remain subject to maritime rules. With respect to Article 7, the American Delegation concluded that so far as aircraft cargo was concerned, the principles of maritime law should not be too rigidly followed. With a view to the adoption of provisions that would be more suitable to air transportation, the American Delegation proposed that the following article be substituted for Article 7 of the CITEJA draft:

ARTICLE 7[7]

"(1) The remuneration due for the operations of assistance or salvage of aircraft shall be paid to the salvor by the operator of the assisted aircraft. Such part of the remuneration as pertains to assistance and salvage of cargo

7. Footnote submitted with the proposed article: "The provision of a lien, if any, is left to the national legislations."

of the assisted aircraft shall be paid to the salvor by the aircraft operator or the cargo owners.

"(2) The operator of the assisted aircraft shall have the right to bring about an adjustment of the salvage charges and, upon payment of the same or making provision for such payment to the salvor, shall have the right to possession of the salved property as carrier.

"(3) The owner of the salved cargo, on giving notice within reasonable time to the operator of the assisted aircraft of his intentions, shall have the right to bring about the adjustment of the salvage charges against his property and, upon payment of the same or making provision for such payment to the salvor, shall have the right to possession of his property."

In submitting the above as a suggested substitute for Article 7 of the CITEJA draft the American Delegation called attention to the fact that the CITEJA proposal contemplated that the aircraft operator would pay the salvage charges on the cargo directly to the salvor, but did not state what would happen to the goods after the salvage charges had been paid. It was stated that the great advantage of air transportation being its speed, this advantage would be lost if there should be a chance for disputes about the possession of and title to the goods. It was thought that the interests of speedy transportation would be best served by giving the air carrier the full legal right to settle the salvage charges, resume possession of the goods, and continue their transportation with the least possible delay. However, Paragraph (3) of the American proposal rendered it possible for the owner of the goods to go to the salvor and take care of his own interests, if for some reason he should prefer to deal with his goods as he considered best. The American proposal merely dealt with the primary question as to who should pay the salvor. It did not attempt to determine whether the salvage charges should ultimately be borne by the carrier or the cargo owner. It was thought that there was not sufficient data available in international air navigation to solve this problem, but that the question of ultimate liability for salvage charges might be left to the national law.

The provisions finally agreed upon by the Brussels Conference as a substitute for Article 7 of the CITEJA draft, appear in Article 9 of the Convention as finally adopted and signed at the Conference. Article 9, which embodies in part some of the proposals of the American Delegation, reads as follows:

ARTICLE 9

"(1) The remuneration due for the operations of assistance or salvage shall be payable by the operator of the assisted aircraft, or by the owner

or armateur of the assisted vessel, in accordance with the national laws or with contracts governing the vessel.

"(2) The operator of the aircraft shall have a recourse against the owners of goods for such part of the remuneration as pertains to assistance and salvage of such goods. However, this recourse shall be denied or reduced if it appears that the assistance or the salvage of the goods has been rendered necessary by an act of the operator of such a nature as to render him liable to the owners of such goods.

"(3) The owner of the goods may, in all cases, by paying such part of the remuneration as pertains to assistance or to salvage of his goods, or by depositing suitable security for such payment, obtain the delivery of the goods by the operator and the release of any goods that may have been attached.

"(4) The recourse of the owner or of the armateur of the vessel against owners of goods shall remain subject to maritime rules."

Article 9 of the CITEJA draft convention provided that indemnity and remuneration actions would have to be brought within one year from the end of the operations of assistance. The American Delegation proposed that the period provided for in Article 9 be extended to two years. It was recalled in this connection that the period stipulated for similar actions under the Maritime Salvage Convention of 1910, is two years. The Delegation's proposal for the adoption of the two-year period was agreed to by the Conference.

According to Article 13 of the CITEJA draft convention, the convention would apply to Government vessels and aircraft, including military, customs and police vessels or aircraft, with the reservation of the provisions of Article 11 relating to jurisdiction, and, as regards military, customs and police vessels or aircraft, with the reservation of the provisions of Article 2, relating to the obligation of assistance and salvage. The American Delegation proposed that Article 13 be redrafted to read:

"This convention does not apply to government aircraft or ships appropriated exclusively to a public service."

The Delegation stated in this connection that no reason was seen for departing from the principle embodied in Article 14 of the Maritime Salvage Convention of 1910 to the effect that the convention does not apply to government ships appropriated exclusively to a government service. The provisions relating to the application of the convention concerning assistance and salvage of aircraft or by aircraft at sea to government ships and aircraft, as finally adopted by the Brussels Conference in September, 1938, are substantially in accord with the American proposal. These provisions

appear in Article 16 of the convention as finally approved by the Conference. Article 16 is as follows:

> "This convention shall, with the reservation of the provisions of Article 13 relative to jurisdiction, apply to government vessels and aircraft, with the exception of military, customs and police vessels or aircraft, to which the rights and obligations flowing from the foregoing provisions shall not apply."

It is believed that the convention on assistance and salvage of aircraft or by aircraft at sea, as adopted and signed at Brussels in September, 1938, constitutes a great improvement over the draft salvage convention submitted to the Brussels Conference. It is also believed that the provisions of the convention as signed at Brussels will become very important in view of the progress made in the establishment of trans-oceanic air transportation.

Draft Convention on Aerial Collisions (CITEJA Document 320)[8]

This draft set forth the conditions under which the aircraft operator would be liable in the event of aerial collisions.

When the CITEJA draft convention on aerial collisions came before the Conference, the American Delegation submitted a statement setting forth the reasons why it felt that the Conference should not adopt a convention on collisions, and urging that consideration of the matter be postponed to a future date. The Delegation called attention to the fact that the Conference was called for the purpose of taking action on three projects; that there was not sufficient time to consider the complicated proposals involved in the draft on aerial collisions; that definite action on this subject should be postponed until ample opportunity has been afforded to examine in the light of experience the many problems involved in aerial collisions and their complex ramifications; that regulations prematurely adopted must rest upon a largely theoretical and at times conjectural basis; and that to formulate rules without better knowledge of the risks indicated might well result in hindering rather than assisting air navigation. The Delegation also pointed out in connection with the proposed collision convention that because of a lack of sufficient aviation data and experience, a readiness to draw upon the body of maritime rules had been observed; that the same freedom of opportunity to evolve laws suitable to the operation of aircraft should be afforded as had been accorded to other forms of transportation, and that to persist in assimilating to

8. See footnote 3.

air navigation analogous principles applicable to other forms of transportation might have unfortunate results. The Delegation supplemented its statement objecting on principle to the adoption of a convention on collisions by a lengthy set of proposals for amendment of the CITEJA draft, for consideration in the event that the Conference should decide to proceed with the adoption of a convention on collisions. The final result was that the Conference decided not to proceed with the adoption and signature of a convention on collisions but referred the CITEJA draft and the proposals of the various Delegations back to the CITEJA for further consideration.

Protocol on Aviation Insurance

During the consideration of the Convention Relating to Damages Caused by Aircraft to Third Parties on the Surface, signed at Rome on May 29, 1933, during the Third International Conference on Private Air Law (diplomatic conference), difficulties arose with respect to the question whether the insurance provided for in that convention for the protection of persons and property on the surface should be of an unconditional nature, or whether the aviation insurer should be permitted certain defenses against the payment of insurance claims. The Rome Conference of 1933 adopted a resolution calling upon the CITEJA to study the matter and to submit its recommendations thereon. At its Tenth Plenary Session, held at The Hague in September, 1935, the CITEJA recommended that the insurer be allowed certain enumerated defenses against the payment of insurance claims. These recommendations appear in CITEJA Document No. 275.[9]

The Italian Government, which is the depository of the Rome Convention, embodied these recommendations of the CITEJA in a proposed protocol to the Rome Convention, referred to herein, which protocol was submitted to the Brussels Conference in September, 1938.[10]

In the submission of its proposals on insurance at Brussels, the American Delegation stated that it had made an effort to consider the problems of all concerned: (1) the Governments which, in accepting the Rome Convention, signified their desire that their nationals be protected; (2) the operators of aircraft for whom the

9. For a translation of Document 275, see Annex "E" to report of American Delegation on sessions of the Third Commission and the Tenth Plenary Session of the CITEJA held at The Hague in September, 1935, submitted by the Delegation on November 14, 1935; Department of State Treaty Information Bulletin No. 74, November, 1935, pp. 30-31; and 1936 U. S. Av. R. 557-559. See also material on "Compulsory Liability Insurance," 8 Journal of Air Law 421-476 (1937).

10. See footnote 4.

problem is a financial one and to whom it is a matter of expense against benefits; and (3) the insurance companies, for which the problem is largely a financial one and to whom it is principally a matter of premiums against losses, complicated by the desire not to depart from proven insurance practices.

While no attempt will be made to enter into a detailed technical discussion of the various proposals on insurance submitted by the American Delegation, or of its attitude toward the proposals of other delegations, it may be remarked that the Delegation felt that for the most part the defenses in the draft protocol as submitted to the Brussels Conference were unnecessary or appeared to defeat the rights of the injured third party, with respect to matters over which he has no control.

The Conference decided to omit the defense for the insurer, provided for in the draft protocol, where there is no certificate of airworthiness in existence for the aircraft at the time when the damage occurs, and to omit the defense, also provided for in the draft protocol, where through the negligence of the operator there is not on board the aircraft at the time the damage occurs, the personnel required by the regulations. The draft protocol was modified in a number of other respects, as will be more clearly shown by a reference to the protocol as finally adopted and signed by the delegates to the Conference.

The Delegation called attention to an apparent ambiguity in Articles 12 and 14 of the Rome Convention referred to herein, in that while Article 12 seems to *require* the operators of aircraft to be insured, Article 14 contains a provision to the effect that if the sureties provided for in the convention *are not furnished,* the operator will not be able to claim a limitation of his liabiltiy. The Delegation made an effort to have the matter clarified in the protocol, and suggested an interpretation of the Rome Convention which would make it optional with each Contracting State as to whether it would require insurance as a condition precedent to the entry into its territory of aircraft of other Contracting States. Although it was felt by the Delegation that the matter was one with which a conference of delegates with plenary powers could deal, the Conference was nevertheless not willing to consider the matter of interpretation, apparently on the ground that it raised a fundamental question affecting the substance of the Rome Convention not contemplated when the matter of the adoption of a protocol to this convention was placed on the agenda of the Brussels Conference.

Resolutions of the Conference

In addition to the adoption and signature of a convention relating to assistance and salvage of aircraft or by aircraft at sea, and a protocol supplementing the Rome Convention of May 29, 1933, referred to herein, the delegates to the Brussels Conference adopted resolutions making recommendations on various subjects, as shown in the Final Act of the Conference. The more important of these recommendations appear to be: (1) That the CITEJA study the question of contribution by interested parties in the payment of remuneration in cases of assistance and salvage, particularly the extent to which such contributions should apply to postal matter; (2) that the CITEJA consider whether from the standpoint of experience obtained under the Convention for the Unification of Certain Rules Relating to International Transportation by Air, signed at Warsaw on October 12, 1929, it would appear necessary to propose modifications or amendments to this convention; and (3) that the CITEJA draft convention on aerial collisions (Document 320) and the material thereon submitted at Brussels, be referred to the CITEJA for further consideration.

THE NEW DEAL IN AIRSPACE RIGHTS

JAMES J. HAYDEN*

My admiration for George B. Logan's enthusiasm for aviation in all its aspects makes it difficult to criticize him but his Annual Report at the Omaha meeting of the N. A. S. A. O., and his report as Chairman of the committee of that organization on the Proposed Uniform Aeronautical Code, contain such glaring errors and sweeping declarations with reference to the rights of landowners in the airspace above their lands that I cannot resist the urge to present the other side of the picture. For the sake of convenience each of these reports will be considered separately.

1. *Mr. Logan's Annual Report.*[1]

At page 634, we find the following statement:

"Note also that the air space involved is that air space which is 'navigable air space,' and 'navigable air space' is that air space below the minimum safe altitude of flight. It is everywhere. It is not only along the civil airways. It is the air space above everybody's land. It is the universal air space."

The obvious import of this language is, of course, that one may navigate at any altitude, below as well as above, the minimum safe altitude, and the authority for that privilege is no less than the Civil Aeronautics Act of 1938. A glance at that Act shows how erroneous the claim really is. Title I, Section 3, states that:

"There is hereby recognized and declared to exist in behalf of any citizen of the United States a public right of freedom of transit in air commerce through the navigable air space of the United States."

Title I, Section 1 (3) of the Act, says that:

"'Air commerce' means interstate, overseas, or foreign air commerce or the transportation of mail by aircraft or any operation or navigation of aircraft within the limits of any civil airway or any operation or navigation of aircraft which directly affects, or which may endanger safety in interstate, overseas, or foreign air commerce."

Section 1 (16) of the Act defines "Civil Airway"; Section 1 (20) defines "Interstate air commerce," "overseas air commerce," and "foreign air commerce"; neither of those definitions justify

* Professor of Law, Catholic University Law School.

1. 9 JOURNAL OF AIR LAW 622, 630, *et seq.*

the claim of Mr. Logan, but rather deny it. Title XI, Section 1107 (i), paragraph 1, amends the Air Commerce Act of 1926, as amended, by striking out (among other portions) the words "Secretary of Commerce" in Section 10 of that Act and inserting in lieu thereof the words "Civil Aeronautics Authority." It appears, therefore, that at the time the report was made and at the present time, Section 10 of the Act of 1926 is still in force in the following language:

"Section 10. Navigable airspace.—As used in this Act, the term "navigable airspace' means airspace above the minimum safe altitudes of flight prescribed by the Civil Aeronautics Authority, and such navigabble airspace shall be subject to a public right of freedom of interstate and foreign air navigation in conformity with the requirements of this Act."

In the light of the foregoing it seems fair to say that the navigable airspace of the United States, according to the Act of 1938, does not include airspace *below* the minimum safe altitude. It is not the purpose of this article to discuss the question whether or not the Act of 1938 is constitutional, or subject to challenge at any point, but merely to point out that the statute itself makes no attempt to authorize avigation below the minimum safe altitudes of flight.

At page 634 of his report, Mr. Logan says:

"Note that the 'Right of flight' exists in behalf of *any* citizen, whereas before, the 'right of flight' was recognized only in behalf of those operating in *interstate* and *foreign* air commerce."

The Act of 1938 contains nothing to warrant such a distinction. Section 3 of Title I, quoted above, limits freedom of transit to citizens engaged in air commerce, and the definition of air commerce in Section 1 (3) of Title I, differs from the 1926 Act only in verbiage. It is important to note that Section 3 of Title I does not say that the right of flight exists in behalf of any citizen, but merely that such right of flight exists in behalf of any citizen engaged in air commerce. Flights not included under the statutory definition of "air commerce" certainly are not protected under the Act of 1938. Without pausing to inquire whether the definition of "air commerce" in Section I (3) of Title I of the Act of 1938 is subject to challenge, it seems apparent enough that the Act does not purport to wipe out the authority of each State to regulate flying within its proper sphere. The Civil Air Regulations adopted under the authority of the Act of 1938 make no pretence of claiming exclusive regulation of flight in the United States.

At page 631 of the report, the following language is used:

"Please note that the word 'business' and the words 'transportation for hire' have been left out of the new definition of 'air commerce.' Please note that there has been added to the definition of 'air commerce' the words 'within the limits of any civil airway' and 'which directly affects,' or 'may endanger' interstate air commerce.

Thus, we have a new definition of air commerce, almost as broad as the definition of interstate commerce used in the Wagner Labor Relations Act and in the Wage and Hour Bill. Of what significance is this?"

In answer to this claim, we need only refer to Section 1 (20) of Title I of the Act of 1938, which provides in part as follows:

"'Interstate air commerce,' 'overseas air commerce,' and 'foreign air commerce,' respectively, mean the carriage by aircraft of persons or property for compensation or hire, or the carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation."

It will be observed that the section incorporates the word "business" and the words "carriage . . . for compensation or hire." In reality, then we have not a new definition of air commerce but a restatement of the old definition in almost identical language with Section 1 of the Act of 1926; the three additional phrases cannot be said to constitute a new definition.

2. *Mr. Logan's report as Chairman of the Committee of the N. A. S. A. O.[1] on the Proposed Uniform Aeronautical Code.*[2]

The advocate has the right to present his client's case in the strongest light possible, consistent with facts, but this report contains some sheer nonsense in the fundamental contentions of the Committee in that portion of their report dealing with the Uniform Law of Airflight, pages 687 to 691. Attention is directed to the following examples:

At page 688, paragraph (d) of the proposed Act is objected to on the grounds that:

"A church bell may interfere with sleep; so may automobiles, newsboys, fire engines, ambulances, trains and street cars. To this extent they may 'substantially interfere with the use' of private property used as dwellings, apartments, or hotels, but none of these things are unlawful."

The analogies cited are noises of church bells, street cars, etc., as interferences with sleep and thus the use of private property without being unlawful; the analogies are poor since it is not the noise of air planes at reasonable heights that usually constitute substantial interference, but the physical presence of planes over

2. 9 JOURNAL OF AIR LAW 687.

the land or buildings and the resulting fear of injury to life or property by low flying that arouses the landowner. While the noise incident to low flights is annoying and warrants relief, the cases do not show that mere noise of planes at lawful heights has actually caused substantial interference. The analogies further assume that noises on neighboring land have the same legal effect as noises over the land in airspace. The error is plain. While both may be nuisances, the latter may be a trespass as well, according to recent cases.

The Report contends also that flying over a nudist camp would interfere with its use but that no relief would be granted if the plane used an established airway, but otherwise if the camp were not under such airway. In reply it may be said, first, that history does not record personal modesty as characteristic of nudists, but quite the reverse; second, the height of flight would clearly constitute an important if not decisive factor in weighing the alleged interference; and third, the fact of an established airway would hardly be a vital matter since navigable airspace is determined by altitude rather than by airways.

At page 689 of the report it is argued that trees or buildings are not "using" space, but merely *displacing* space or filling it with contents. This is merely juggling words, and is actually incorrect. As a matter of physics, space cannot be displaced; it can be and is occupied or used by trees or buildings. If the landowner occupies or fills space by erecting a building, he is clearly "using" the space filled by that building. Only dire desperation could inspire the "use" of such an argument. Incidentally it might be recalled that in 1931, Mr. Logan was Chairman of the American Bar Association Committee on Aeronautical Law which sponsored a proposed uniform aeronautical code, Section 1 of which affirmatively declared that space could be used. Section 1[3] read in part as follows:

> "Flight in aircraft above the lands and waters of this state, within the 'Navigible Air Space,' as hereinafter defined, is lawful unless at such a low altitude as to interfere with the then existing use to which the land or water or space over the land or water is put by the owner."

In passing it may be noted that the quoted matter carries the definite implication that as recently as 1931, Mr. Logan believed that the landowner had priority in the "use" of airspace.

At page 689 of the report, the committee contends:

> "When it comes to the phrase 'adversely affect the then existing value,' we find that this is even a greater departure from established law. It would be no news to a real estate dealer that the erection of an apartment house

3. 56 Reports of American Bar Association 318.

or a store of any kind or a filling station or movie theater adjacent to or even within the same block as a dwelling house 'adversely affects its value.' An unsightly vacant lot does the same thing. But it would be, indeed news if any of these things, absent local ordinances, would be deemed unlawful. Besides, these things which we have mentioned are permanent in their nature, but flight is a momentary thing. Yet, under this act there is nothing to prevent a landowner from claiming, by interference at least, that a single flight adversely affected the value of his land and hence it was unlawful."

The analogy employed in support of this argument is that the erection of a movie theater within the same block as a dwelling "adversely affects its value" but is not unlawful. The analogy is defective in that it assumes too much. The answer is, that first, the presence of a theater does not necessarily depreciate the value of a dwelling house, since the character of the entire neighborhood and the size and population of the particular community are important factors; second, zoning regulations, just as flight regulations, protect the owner of the dwelling house to a reasonable degree; and third, it is not a single momentary flight that depreciates land values, but rather regular and continual flights over land at low altitudes which do the harm.

At page 690, the committee contends that there is no such thing as ownership of airspace. In commenting on the 2d section as a proposed compromise by which the aviator is to get a limited right of flight in exchange for absolute liability, limited, if insured, the committee says:

"The land owners have nothing to offer. Court decisions and the Federal Act have taught us this. We now know that they do not own the airspace. The right of flight is just as clear and just as untrammeled as the right to drive an automobile, and much broader. The right to drive an automobile is limited to public ways. All of the airspace is public. Absent the sovereign right of the government or of the State to set aside restricted airspaces, there is no privately owned airspace."

The answer to this contention is that court decisions and the Federal Act have taught us that the landowner can and does own airspace. Neither the 1926 Act nor the 1938 Act contains any reference to the rights of landowners in the airspace above their lands; it should require no argument to prove that Congress has no jurisdiction as to real property and the rights incident thereto among the various States, aside from Federal territory. Assuming the complete legality of Section 3, Title I, of the Act of 1938, it contains no denial of complete dominion by the land owner of airspace below the minimum altitudes of flight, and at most purports to give to the public merely an easement in the airspace above such minimum altitudes. In short, the Federal Acts leave to the courts

in the various States, including the Federal Courts within the well known sphere of their jurisdiction, the question of rights of landowners to the airspace above their lands.

The Courts in this country have not decided that landowners do not own airspace. The cases demonstrate that airspace above a man's land can be and is the subject of ownership. The following excerpts are in point:

In *Johnson* v. *Curtiss,* 1928 U. S. Av. R. 42, it is said:

"The air, so far as it has any direct relation to the comfort and enjoyment of the land, is appurtenant to the land and no less the subject of protection than the land itself; but when as here the air is to be considered at an altitude of 2,000 feet or more to contend that it is a part of the realty, as affecting the right of air navigation, is only a legal fiction devoid of substantial merit. Under most technical application of the rule, air flights at such an altitude can amount to no more than instantaneous, constructive trespass. Modern progress and great public interests should not be blocked by unnecessary legal refinements."

In *Smith* v. *New England Aircraft Company,* 270 Mass. 511, Chief Justice Rugg cited with approval the famous case of *Butler* v. *Frontier Telephone Co.,* 186 N. Y. 486, although that case involved the stretching of a wire across the land of the plaintiff and not an interference by airplane, and then went on to say that:

"For the purposes of this decision, we assume that private ownership of airspace extends to all reasonable heights above the underlying land."

While the assumption of airspace ownership does not of itself establish that such ownership exists as a matter of law, we may safely contend that the Supreme Judicial Court of Massachusetts would not assume a principle of law if such principle were out of harmony with the jurisprudence of that state, or if such a principle had no reasonable legal basis.

In *Swetland* v. *Curtiss Airport Corporation,* 41 F. 2d 929, modified in 55 F. 2d 201, the Circuit Court of Appeals denied the contention of defendants that the early cases dealing with the maxim *cujus est solum* were decided on the theory of nuisance and not trespass, and after pointing out the lack of controlling precedents in Ohio, and further that the case before the Court must be decided in relation to the necessities of the times, declared:

"From that point of view we cannot hold that in every case it is a trespass against the owner of the soil to fly an airplane through the airspace overlying the surface. This does not mean that the owner of the surface has no right at all in the airspace above his land. He has a dominant right of occupancy for purposes incident to his use and enjoyment of the surface and there may be such a continuous and permanent use of the lower stratum

which he may reasonably expect to use or occupy himself as to impose a servitude upon his use and enjoyment of the surface. See *Portsmouth Co. v. United States,* 260 U. S. 327. As to the upper stratum which he may not reasonably expect to occupy, he has no right, it seems to us, except to prevent the use of it by others to the extent of an unreasonable interference with his complete enjoyment of the surface. His remedy for this latter use, we think, is an action for nuisance and not trespass. We cannot fix a definite and unvarying height below which the surface owner may reasonably expect to occupy the airspace for himself. That height is to be determined upon the particular facts of each case. It is sufficient for this case that the flying of the defendants over the plaintiffs' property was not within the zone of such expected use."

The extract just cited clearly recognizes that the owner of land has first of all the dominant right to occupy the airspace above his land as an incident to his enjoyment of the surface, and second, his rights in the lower stratum are such that a servitude could be imposed by adverse user. If such language does not mean ownership of airspace in the lower altitudes, at least, it is difficult to understand what it does mean.

In *Thrasher* v. *City of Atlanta,* 178 Ga. 514, it was provided in Section 4477 of the Georgia Civil Code of 1910 that:

"The owner of realty having title downwards and upwards indefinitely, an unlawful interference with his rights, below and above the surface, alike gives him a right of action."

In spite of that section of the Code, the Court insisted upon construing the section in the light of what it understood the old maxim to mean at common law, and in that light, held that the pleadings did state a cause of action for nuisance but were insufficient to state such cause of action for trespass. In discussing the principle of trespass, the Court said:

"It is sufficient to say that the flight of aircraft across the land of another cannot be said to be a trespass without taking into consideration the question of altitude. It might or might not amount to a trespass, according to the circumstances, including the degree of altitude; and even when the act does not constitute a trespass, it could be a nuisance, as where it 'worketh hurt, inconvenience, or damage' to the preferred claimant, namely, the owner of the soil, or to a rightful occupant thereof."

This citation implies that an action of trespass would lie if plaintiff pleaded facts constituting trespass. It is evident that if an action of trespass is maintainable, the landowner must be the owner of airspace since trespass lies only where a property right is attacked.

In *Hinman* v. *Pacific Air Transport Co.,* 84 F. 2d 755, cert. den. 300 U. S. 654, relief was denied in a case in which the factual

allegations were so bare that the final result was inevitable from the start. During the course of its opinion the Circuit Court of Appeals said:

"We own so much of the space above the ground as we can occupy or make use of, in connection with the enjoyment of our land. This right is not fixed. It varies with our varying needs and is co-extensive with them. The owner of land owns as much of the space above him as he uses, but only so long as he uses it. All that lies beyond belongs to the world."

It would appear that the Circuit Court is of the opinion that ownership of airspace is an ordinary feature of occupancy of airspace, and also that airspace really is "used," the Committee to the contrary notwithstanding.

In the same opinion the Court points out that an action of trespass for damage to airspace owned by plaintiffs is quite possible where facts are alleged to show such damage. Said the Court:

"The case differs from the usual case of enjoining a trespass. Ordinarily if a trespass is committed upon land, the plaintiff is entitled to at least nominal damages without proving or alleging any actual damage. In the instant case, traversing the airspace above appellants' land is not, of itself a trespass at all, but it is a lawful act unless it is done under circumstances which will cause injury to appellants' possession.

Appellants do not, therefore, in their bill state a case of trespass, unless they allege a case of actual and substantial damage. The bill fails to do this. It merely draws a naked conclusion as to damages without facts or circumstances to support it. It follows that the complaint does not state a case for injunctive relief."

It is interesting to note that the Court in this case differs from the Circuit Court in the 6th Circuit (*Swetland* v. *Curtiss Airports Corp., supra*) as to the application of the principle of easement by continued adverse user of the lower stratum, but there is no conflict between the two cases on the subject of ownership of airspace.

A careful reading of the pleadings and the briefs in the Hinman case leaves no room for doubt that the plaintiff failed to state facts showing actual damage to the land to which the airspace was incident. This case expressly affirms the principle that airspace is susceptible of ownership, even though use is made the condition of such ownership. The Court does not undertake to define the boundaries of the word "use" nor to limit its application. Whether physical occupancy of airspace is essential to constitute a "use" of such space is still open to determination.

The Hinman case is of particular significance because it does deny that the old maxim *cujus est solum* is now or was in the past sound law in California. No better illustration could be given to

show that mere denial of the efficacy of the maxim is a far cry from saying that there is no such thing as ownership of airspace. The Circuit Court must have appreciated the distinction else it could not have written the language quoted above.

Other recent cases[4] in which the right of flight has been involved, directly or indirectly, contain no reasoning or decision inconsistent with the views above expressed, and detailed analysis of them is omitted for the sake of brevity.

It is not surprising that such a furious attack has been aimed at an established principle of property law since the interests of the aviation industry are somewhat hampered by that principle. The right of flight should be recognized and has been recognized both by statute and by common law decisions; the landowner has the advantage of tradition and priority by many centuries. There is no fundamental reason why the aviation industry should not grow and prosper in spite of such advantage, and it will do so. The industry must realize, however, that the right of the landowner in the airspace above his land is a property right which cannot be blown down by huffing and puffing and the reiteration of mere catch phrases.

4. *Tucker* v. *United Air Lines*, 1936 U. S. Av. R. 10; *Rochester Gas & Electric Corp.* v. *Dunlop*, 266 N. Y. S. 469; *Gay* v. *Taylor*, 1934 U. S. Av. R. 146; *Pennsylvania* v. *Von Bestecki*, 1937 U. S. Av. R. 1; *Cory* v. *Physical Culture Hotel*, 14 Fed. Supp. 977, 986, 88 F. 2d 411; *Mohican & Renna* v. *Tobiasz*, 1938 U. S. Av. R. 1. See also Secs. 158, 159, 194, Restatement on Torts (American Law Institute) Sec 3, Uniform Aeronautical Code.

THE CITEJA MEETING IN PARIS IN JANUARY, 1939

ARNOLD W. KNAUTH*

The First, Second and Third Commissions of the CITEJA met in Paris on January 23 and 24, 1939, in order to consider the matters referred to them by the 13th Plenary Session at Brussels on September 28th, 1938, and prepare for the 14th Plenary Session, which will be held in September, 1939.

The Brussels meeting, held at the end of the Fourth International Diplomatic Conference on Private Air Law, in the atmosphere which preceded in the Munich Agreement, had been brief; it had adopted six resolutions, with the following purport: No. 97 adjourned the question of the collaboration of CITEJA in the interpretation and execution of Private Air Law Conventions and the consideration of the draft convention on the status of the crew to the 14th Session. No. 98 instructed the First Commission to examine the question of the effect of the decisions of courts indicated as competent in the existing Conventions. No. 99 instructed the Second Commission to examine proposals for the revision of the Warsaw Convention of 1929 as to Air Transport. No. 100 instructed the Third Commission to redraft the Land Salvage Convention in the light of the final text of the Salvage at Sea Convention just approved by the Fourth Diplomatic Conference and signed on the same day by many of the plenipotentiaries there present. No. 101 instructed the Third Commission to take up the general study of aerial insurances.

The anxiety of the experts to return to their homes as quickly as possible, in the event of hostilities in Czechoslovakia, was so great that it was impossible to find even a brief moment for the selection of Reporters as to the effect of decisions, the Warsaw revision, and the study of insurance. As M. Vivent was already Reporter for Land Salvage, his designation continued. Resolution No. 102 accordingly instructed the First, Second and Third Commissions to meet at Paris in January, and the meetings were held the week after a session of the CINA for which several of the experts had to travel to Paris anyway.

In the interval, at the request of the Italian delegation, the subject of Mortgages on Aircraft was revived, having been dor-

* Member of the New York Bar.

mant since 1931. It was understood that this was restored to the agenda preparatory to a revival of the projected convention on the Aeronautical Register, which has likewise been inactive since 1931.

Twenty-six experts from 13 countries attended the Paris sessions, as follows: U. S. A., Messrs. Knauth and Mulligan; Belgium, M. Pholien; Denmark, Messrs. Ingerslev and Gregersen; France, Prof. de la Pradelle, Prof. Ripert, M. Vivent and M. Garnault; Great Britain, Sir Maurice Amos and Dr. A. W. Brown; Great Germany, Dr. Wegerdt, Prof. Riese and Dr. Bülow; Hungary, M. Lupkovics; Italy, Senator Cogliolo, Prof. Ambrosini, Prof. Bosco and Prof. Cacopardo; Japan, MM. Moriya and MM. Komabayas; Netherlands, MM. Wolterbeek-Muller and Schonfeld; Poland, M. Babinski; Switzerland, M. Clerc; and Czechoslovakia, Dr. Netik.

The Authority of Judgments, or Effect of Court Decisions

Professor Bosco of Italy submitted a memorandum[1] which discussed the situations resulting from the fact that different victims of the same disaster may elect to sue in different jurisdictions. Thus one court might hold the defendant free of liability, whereas a second might hold him liable but entitled to limit his liability, and a third might hold him liable without limit. When successful plaintiffs endeavor to enforce judgments of unequal extent as foreign judgments against limited assets, a problem of ranking is presented. And if the effort is made to enforce a foreign judgment in a State where the local court has already decided that the defendant is without liability, a conflict might arise as to the law of the case. The discussion developed along two lines: as to the possibility of litigating an issue once and for all, either by forcing the plaintiffs into a concourse, or by postponing the suits after the first one for a certain time, in order to enable the court first seized to adjudicate the issue, with or without right of intervention by the other parties, and with binding effect upon all; or by submitting cases of private air law under the Conventions to some single tribunal selected or created for the purpose, so that in all events there will be one litigation at one time, in one place, and with one result. The other line considered the possibility of agreeing to a simplified and uniform procedure for the enforcement of judgments under the Conventions as foreign judgments.

While no bi-lateral or multi-lateral agreements have yet been made in any field to bring about an international concourse of plain-

1. CITEJA Doc. No. 369.

tiffs, the idea has been considered, for example, in respect of the shipowners' limitation of liability laws, which have in many countries been brought into harmony through the Brussels Convention of 1924 for the unification of certain rules relating to that topic. It has also been bruited in matters of bankruptcy and also as to the winding up of companies conducting an international business. A certain degree of co-operation has been attained in the winding up of insurance companies. See, for instance, *In re Liquidation of Norske Lloyd Insurance Company*,[2] where excess assets in New York were claimed by both the British and the Norwegian liquidator.

The Shipowners' Limitation Convention of 1924, the Rome Convention as to Surface Damage by Aircraft of 1933, and the Brussels Convention as to Salvage of Aircraft at Sea of 1938 each contains provisions authorizing a defendant who is sued in two or more jurisdictions to present a statement to the court as to the total of claims with which he is faced, for the purpose of preventing his limited liability from being exceeded. The European states adhering to the Berne Railway Conventions have agreed to enforce judgments under those Conventions to a limited extent. Several European countries have concluded bilateral agreements as to the enforcement of each others' judgments — notably England and France, and France and Italy. These ideas thus appear to be capable of general solution on an intra-European basis, and can be solved by any two states on a bilateral basis. A general solution on an inter-continental basis presents great difficulties, and may not be expedient from the point of view of delay and expense. From the point of view of the plaintiff, for whose redress these rights are created, complete freedom to proceed in any suitable forum where jurisdiction of the defendant can be obtained is of primary importance. But whenever a system of limited liability is set up for the protection of the defendant, an orderly method of working out the administration of the system is desirable and should be provided, at least to the extent of establishing the broader indications. In the absence of any international judicial conference to consider administrative rules, it would seem proper for such interested organizations as the CITEJA and the Comité Maritime International to study them. The upshot of the discussion was that Professor Bosco, of the University of Rome, was selected as Reporter, and instructed to make a study and bring in a report on this whole group of problems. The case-law material upon these points is scanty;

2. 242 N. Y. 142, 1927 Amer. Mar. Cas. 217.

and the Reporter would greatly appreciate a reference to any material that may exist.

Chattel Mortgages of Aircraft Property, Other Pledges, and Liens

This subject was studied by the CITEJA for several years prior to 1931, in which year Dr. Richter, who was at that time a German expert, brought in a report.[3] It was thought at that time that there would be a large amount of financing of civil aircraft purchases by means of chattel mortgages and pledges; and in that connection Senator Amadeo Giannini, the senior Italian expert, made a related study looking towards a convention for an internationally co-ordinated system of Aeronautic Registers, by means of which mortgages, pledges and liens pertaining to aircraft could be officially registered. Interest in the matter died out, however, and it has not been followed up. A law of this character exists in Italy, and the Italian experts are interested in reviving the idea of a convention. M. Garnault, a French expert,[4] was chosen as Reporter to make a fresh investigation of the situation.

The following table illustrates the ranking of liens which come ahead of the mortgage under (1) the Richter plan of 1931 for aircraft, (2) the Brussels Convention for the Unification of Certain Rules relating to Ship Mortgages and Maritime Liens of 1924,[5] and (3) the American Preferred Ship Mortgage and Maritime Lien Act of 1920. It will be noted that Dr. Richter omits a lien for the wages of the aircraft commander and crew: he justified this by providing that the mortgage may not extend to the pledge of earnings—passenger fares and freight money—which thus remain free assets against which the employed personnel may proceed for their wages, so that a lien is not needed. The principal novelty of his plan is the preference of necessary repairs.

---

3. CITEJA Doc. 162, Annex B.

4. M. Garnault is a lawyer in Paris; he may be addressed at 134 rue de Grenelle.

5. Now in effect in France, Belgium, Holland, Norway, Sweden, Denmark, Finland, Estonia, Poland, Splain, Portugal, Italy, Hungary, Brazil.

Mortgages and Liens — Comparative Rankings

Air—Draft of 1933	*Maritime Convention of 1924*	*U.S.A.—Maritime Statutes, 1920*
court costs	law costs	legal costs
airport fees	tonnage, light, harbor dues pilotage dues	tonnage and light dues
	taxes and charges of a similar nature	taxes
(wage claims may be asserted against unpledged freight)	wages of master and crew	wages of crew, not master
	wages of "other persons employed in the service of the ship"	wages of stevedores directly employed by the shipmaster, not through an independent contractor
(aerial collision convention under discussion)	collision liability	collision liability
	contribution in General Average	contribution in General Average
(salvage at sea convention awaiting ratification)	liability to pay salvage	liability to pay salvage
(Warsaw convention now in force)	Liability for cargo loss and damage	Tort liability for cargo loss and damage
(air personnel convention now under discussion)	liability for bodily injury (incl. death?) incl. assault	liability for personal (i. e., bodily) injury, and for wrongful death. Statute denies lien for assault
	watching and maintenance at the "last port" (i. e., port of sale?)	no watchman's lien in U.S.A. maritime law.
	damage to harbor works and docks	not within U.S.A. admiralty jurisdiction
necessary repairs	(not preferred)	(not preferred)
The aerial mortgage registered on the Register	The registered ship mortgage	The Preferred Ship Mortgage registered in the home port
Subordinate to the mortgage are liens for		
possessory liens for repairs not necessary	disbursements of master, general agent and charterer away from home port	repair liens in rem as well as possessory
	bill of lading claims generally	Master's and Owner's Bs/l only, unless ratified by sailing with cargo
		supply of necessaries

Contemplated Amendment or Revision of the Warsaw Convention

The Warsaw Convention, relating to Air Transport of Passengers and Goods, was signed ten years ago by the plenipotentiaries to the Second International Diplomatic Conference on Private Air Law. It has met with widespread success, having been ratified or adhered to by some 32 states, including every state in Europe except Portugal, and many states in other continents, including the United States, Mexico, Brazil, Australia, Southern Rhodesia, India, and the Soviet. It has been in general effect since February 13, 1933; and a few cases under its provisions have been litigated in appellate courts in England and Italy. It is now suggested that a study be commenced as to amendments which may be desired in the light of experience. The International Air Transport Association (IATA), whose membership includes all the great airlines of Europe, has complained for some years that the requirements as to the contents of the ticket and airway bill are needlessly cumbersome, and has protested against the provision as to liability for delay. Consequently the CITEJA proposes to receive suggestions and commence a study, for which Sir Maurice Amos, Professor of Comparative Law at London University, has been named Reporter.

Considering the elaborate provisions of the Convention, and its wide scope, it has been a remarkably successful document. Any suggestions as to its amendment might be grouped as major and minor. The American delegates suggested that any proposals received should be segregated accordingly. It may very well turn out to be possible to secure general agreement upon some minor and clarifying amendments, which would be convenient for all concerned. But it might prove exceedingly difficult to introduce any alterations which could be regarded as altering the basis of the general consensus on which the Convention rests. The preliminary grouping of any proposed amendments is therefore of great importance.

As a first basis of study, the British delegation suggested 26 points for study, and the Italian delegation supported three suggestions. The Reporter would be glad to hear of any further proposals. It is the present intention to bring in a preliminary report at the time of the plenary session in September, 1939, for which purpose the sub-committee charged with this matter will hold a special meeting at that time if the Report is ready.

The 26 British points relate to the definition of "international carriage," the simplification of the required form of the ticket, bag-

gage check and airway bill, elimination of the severe penalty for departing from these prescribed forms, various aspects of the airway bill as a document of title, the notion of "risques de l'air," the liability for delay, the rules as to interest on damages, costs, and other procedural matters, and various words which, in the original French or in various translations, have caused some difficulties of interpretation.

Salvage of Aircraft in Distress on Land

M. Vivent, Sous-Directeur of Civil Aviation in France and the Reporter of this subject, brought in a third draft text of the proposed convention, together with a brief Report.[6] In this new draft, which supersedes the one prepared during the discussion at the meetings in Paris in May, 1938, the Reporter had taken advantage of considerable portions of the text of the Salvage at Sea Convention signed at Brussels in September, 1938. The new text was discussed informally, article by article, and as a result Articles 2 and 3 were considerably altered and finally re-committed for redrafting; the tendency was to bring the text and the underlying principles into still closer conformity with the Brussels Convention. A number of other passages were also altered; and a fourth text is now in preparation, to be submitted in the course of the Spring as the basis of further efforts.

The American delegation submitted a memorandum[7] developing the doubts expressed by previous American delegations as to whether there is any interest in this subject or any need for pursuing it. The points made were briefly as follows:

(1) Salvage on land is wholly novel and is not at present known in any other field of terrene law. (2) Property on land lies where it falls; it is not generally lost forever like property which falls into the sea. (3) As to the proposal of zones, the draft seemed to make it possible that an area might be a "salvage area" as to the ratifying States without any declaration by the sovereign of such area and perhaps even in spite of his objection, which would involve a derogation of sovereignty. (4) The declaration of "Salvage Zones" would give opportunity for further reducing, or hampering, the freedom of air navigation, already much restricted by national policies relating to air space reservations, or prohibited areas, special conditions imposed upon tourist flights, etc. (5) If assistance is needed in remote areas, the proper first approach would be by an air patrol similar to a coast guard patrol; this would be a matter of

6. CITEJA Doc. No. 370.
7. CITEJA Doc. 371.

public law, and not a matter of private air law, and hence not within the competency of CITEJA. (6) The cost of such a public service should not be imposed on private parties, with sanctions or penalties; and the creation of new sources of expense in the operation of aircraft should be avoided. The experience of the past shows that aid is readily given in the search for fallen aircraft without any expense whatever, and airmen may be depended upon to help each other as much as they can. (7) Even as to salvage at sea, where the problem was merely to coordinate the rights and duties in respect of aircraft with those already existing in respect of surface vessels, the Brussels Conference had shown a tendency to reduce the rewards (which are the basis of the idea) to such small amounts as to make the proposal uninteresting; even greater opposition to the completely novel idea of land salvage might be expected.

The sub-committee took the position that it had been instructed by the 13th Plenary Session to continue with the study of the draft convention; and that it would not re-examine the question of policy at this time. The American memorandum was accordingly placed upon the agenda of the forthcoming 14th plenary session. The principal interest in this subject appears to be expressed by the Italian and French delegates; several of the other delegations appear to be indifferent towards it.

Aeronautical Insurances

In accordance with Resolution No. 101, adopted at the 13th Session, the agenda called for an exchange of views on the general topic of aeronautical insurances. No general discussion of this matter by CITEJA had taken place since 1929. In that year Mr. Carlos da Silva Costa, at that time a Brazilian expert member of CITEJA, submitted a report[8] based upon replies received to an elaborate questionnaire sent out in 1927, ranging widely over many topics. This was discussed at the 1929 Session (CITEJA Doc. No. 5). A reason for reviving the subject was expressed by the German expert Dr. Riese. He stated that a serious situation has developed in Europe because of the divergent practices as to the terms on which passengers are carried. Some airlines provide an insurance coverage as part of the ticket, while others do not. As all the lines act as agents for each other in the sale of tickets, and as the service schedules are divided between the lines, it is impossible for a passenger who buys his ticket from carrier A to know whether he will be carried in an aircraft of carrier A or B or C, nor to know which

8. CITEJA Doc. 4.

terms of carriage will apply in respect of insurance coverage. This is most unfair, and a source of complaint. It seems evident that one thought behind the matter may be that the insurance practices of the lines which include coverage in the ticket might be extended to all the lines in the same services. The preparation of a report was entrusted to M. Clerc, who is chief of the administrative section of the Swiss Federal Aviation Office at Berne.

Concluding Recommendations

The American delegates renewed the recommendation made by their predecessors that the CITEJA should meet only once a year, instead of twice or even oftener, as has been the custom for some years past. The effort of attending two meetings a year is considerable, and the delay due to efforts to keep in touch with the work by mail is a handicap to American co-operation.

They also recommended that the CITEJA seek more direct participation in its work by diversified representation from other groups concerned with civil air navigation. In this connection they urged that the study of insurance should be left to such organizations as the International Association of Aviation Underwriters and the International Air Traffic Association, and that the matter of salvage on land should be handled in consultation with experts interested in the practical operation of aircraft in remote desert and wilderness regions. Likewise they expressed the view that the study of foreign judgments should be taken up through the International Law Association and other groups interested in other phases of the same problems. It is hoped that these views, repeatedly emphasized, will begin to bear fruit, and enable all the interested branches of the great American civil aviation industry to bring their views to bear more directly upon the important work which the CITEJA is doing.

WEATHER BUREAU "GAPS" AND INADEQUACIES IN OUR SYSTEM OF FEDERAL AIRWAYS*

EDGAR S. GORRELL†

PART I—THE AIRWAY WEATHER SERVICE TODAY

When airplanes began to fly on schedules, weather reporting and forecasting had to be revolutionized.

Most of the changes made have appeared as additions to the Weather Bureau's traditional system, and the extent of their influence on that system has heretofore gone unrealized. This influence has been highly important in improving the quantity and accuracy of information about today's and tomorrow's weather, available to everyone in the United States.

Aviation's special needs started with the pressing requirement to know the weather, not only here but 300 miles from here, and not merely sometime later today but *now*. Information previously of value only to the weather forecaster became the immediate need of the direct user, the "ultimate consumer" of the weather service.

The forecaster had needed a record of the current weather only from a sufficient number of sampling points. The aviator needed the information from his starting point, his destination, and the intermediate points over which he was going to fly his plane at a speed of a mile and a half to two miles a minute. With speeds now closer to three miles a minute, the urgency has still further increased.

Teletype circuits and radio facilities for communicating between points along the airways were an early part of the Government's investment in public facilities for air navigation. The Weather Bureau turned every teletype and radio station along the airways into a weather-observing post. It supplied instruments, such as were available, and sent out instructions designed as well as possible to make the teletype and radio operators into embryo weather observers.

Facts, which they must observe and report include, "ceiling," that is the height of the cloud layer above the ground; the sky conditions, that is whether the sky is clear, or decked with scattered or broken clouds, or completely overcast; the "weather" in the

* An address delivered before the National Aviation Forum, Washington, D. C., February 21, 1939.

† President, Air Transport Association of America.

more colloquial sense, that is, whether rain or snow or hail is falling; the visibility, the obstructions to vision (fog, haze, etc.) when any exist; the temperature; the dew point; wind; and the barometric pressure.

Instruments were sketchy in many places. There are numerous airway stations where up until the present year the teletype or radio operator responsible for weather reporting has had nothing to work with except an ordinary thermometer. At many places, up to the present year, the "ceiling projector," or instrument by which the observer throws a light against the cloud layer as an aid to the accuracy of his measurement or estimate of the number of hundred feet of height, has been merely an abandoned course light. Open-scale barographs, for satisfactorily measuring barometric pressure, are only now coming into the hands of observers in any impressive number.

With such instruments as they have had, the observers themselves have developed their ability at weather reporting as best they could. The men naturally have been chosen and sent to their posts for the ability as teletype or radio operators and not for their ability at weather reporting, and personal instruction in the latter has been lacking on anything resembling an organized or uniform scale.

Nevertheless, from this nucleus has grown a weather-reporting system which in coverage and volume considerably exceeds the regular organization or "general weather and forecasting" system of the Weather Bureau.

Patient work by Weather Bureau officials, through correspondence and such direct and indirect personal contact as casual opportunity has permitted, has brought about unbelievable improvement in the quality of reports from the Commerce Department (now Civil Aeronautics Authority) employees who man the teletype and radio stations. A few of the stations, where no Commerce Department (Civil Aeronautics Authority) employee was assigned to duty, have been staffed by the Weather Bureau itself; though for the most part, the employees who have had to be used at these places are part-time observers, also inexperienced, whom the Weather Bureau officials have secured locally and instructed as best they could.

During the past year, however, Congress, stirred by a realization that aircraft disasters (including that in which former Senator Bronson Cutting of New Mexico met death) have been a direct result of faulty weather information, has done much to relieve a situation in which, for reasons of Government "economy," the airway service was literally starved for lack of funds.

Stations at which the Weather Bureau force consisted altogether of part-time observers have been assigned one trained full-time observer who has met Civil Service requirements and who serves each day through the most important of the eight hours of the twenty-four through which these reporting stations must operate.

At strategic points on the airway network the teletype and radio men have been relieved of observers' duties and the latter duties have been taken over by a supplementary staff of the Weather Bureau's own trained men on shifts that permit twentyfour-hour service. At a few important terminal airports and junction points, the Weather Bureau staff now includes meteorologists of calibre equal to the task of interpreting reports, preparing weather maps, and giving advice to the pilots and dispatchers who use the airways.

The "airway stations," at which observations are made and reported along the airways, now number more than 580, of which 270 make their observations and reports every hour of the day and night. The remainder render observations at special times, in connection with scheduled flights over particular airways, or when called for by the supervising stations. More complete reports are made every 6 hours by a system of 350 stations, including more than 200 of the airway stations and an additional 145 "off-airway stations," located, as the name would indicate, not on the line of an airway but away from it, in the direction from which the weather moves; so that aviators' paths are safeguarded from the surprise of a flank attack from unfavorable weather. Extra reports from some of these stations, in strategic areas, are also collected at three-hour intervals.

Over the extensive teletype and radio communication network of the Civil Aeronautics Authority, these reports are transmitted in hourly sequences. The off-airway stations telephone or telegraph their reports to the airports, where they are added to those of the airway observers.

Wind directions and velocities at flying levels are made every 6 hours at about 100 stations, where observers release hydrogen, or helium, filled balloons and time and record their movements as they follow their course with a special surveyor's telescope.

At another 20 or more stations, daily observations are made of pressure, temperature, and relative humidity in the upper atmosphere. At some of these places the instruments are carried to the desired altitudes by special airplane flights. At others, the results are obtained by a newer instrument known as the radiometeorograph, a two-pound instrument which not only makes the required meteorological observations but also broadcasts the information by special radio signals. Carried aloft by a six-foot balloon, this instrument

can reach altitudes in the face of adverse weather in a way that out-does the performance of airplanes themselves.

Measurement of wind direction and velocity, and of atmospheric conditions, at high altitudes, not only is of direct and indispensable aid to flying, but furnishes the basic information for "air-mass analysis," the most accurate means yet devised of forecasting weather movements.

These reports, likewise, flow on over the communications network to the Weather Bureau's eleven airway general supervising and forecasting centers, which have surveillance over the airway weather service in their respective districts, the eleven districts altogether covering the entire country.

At each forecasting center, as well as at about 100 important airport stations, Weather Bureau meteorologists draw charts of existing weather conditions over North America and the adjoining oceans. Each of the eleven forecast centers issues a forecast every six hours, regarding the weather conditions which in the next eight-hour period are to be expected over the airways in its district. Special forecasts are issued at more frequent intervals when weather conditions are changing rapidly.

Back over the communications network then goes the current six-hourly forecast, and is repeated over the network at hourly intervals until the next forecast is available. In addition, the forecasts, and essential information from observers' reports about currently existing weather conditions, are broadcast to pilots in the air, once each hour or oftener, by Civil Aeronautics Authority radio stations.

Air transportation makes use of the Weather Bureau's service in numerous ways. Pilots of aircraft take cognizance of the frequent weather reports, forecasts, and advices when planning and carrying out their flights. Air traffic is controlled to a very great extent by existing and expected weather conditions over the airways and at air terminals where landings and departures are scheduled. Air navigation is dependent upon knowledge of the winds, cloudiness, precipitation, turbulence of the air, icing and other conditions for selection of most satisfactory flying levels and avoidance of hazards. Records of past weather reports form a source of information extremely valuable for laying out airports, planning airline schedules and routes, selecting sites for aircraft operations, and fulfilling other needs of aviation. New and improved instruments designed by or for the Weather Bureau have made it possible to furnish more accurate and extensive information for air transportation. Investigations undertaken by this government meteorological organization are continually being employed for the enhancement of the service and the greater protection of air navigation.

PART II—Needs of the Airway Weather Service

It would seem obvious that the appropriations for this work, which has come to be known as "airway weather service," should be adequate for providing service equal to the needs and requirements of the public during the period for which the appropriation is to be made.

Safe travel over the airways is one of the important purposes to the realization of which the airway weather service contributes and it is naturally the one in which commercial aviation has the most direct and vital interest.

The users of air mail and travelers on the scheduled air lines are, however, by no means the only persons who depend for the prompt and certain conduct of their business, and for the safety of their property and personal life and limb, upon the adequate provision and satisfactory operation of the airway weather service. Prompt and accurate weather information and wise advice from weather-wise experts are of even greater value to "private flyers" than to the organizations which operate common-carrier planes on daily schedules. The planes of private flyers much out-number those of the scheduled airlines.

Also, the entire network of civil airways is at the same time the web of arteries through which the planes of the Army and Navy must drive their course. In time of peace, and in far greater measure in any more serious circumstance, the course of the planes of our military establishment must be unimpeded. Weather is their greatest barrier. Operation of the airway weather service, on a plane that so nearly as possible will remove the barrier of unknown weather, is an integral element of national defense and an imperative obligation which may not be disregarded in appropriating for the support of the work.

Furthermore, the airway weather service does not exist solely for the benefit of the direct and indirect users of the airways, myriad though the number of those users has become. The product of the airway weather service is no more confined in usefulness to airway users than the Federal road system of the United States is confined in usefulness to the farmers for whose benefit that system first was instituted. The names are different but the principle is the same. Aviation made requisite a type of frequency and extent of weather observing and quality of forecasting, each much higher than any industry or institution in American life had called for in any earlier day. When provided, this service conferred honor and

recognition upon aviation by being named the *airway* weather service. The volume, frequency and high quality of its product, however, contribute to and are used by every person who reads or listens to weather reports. Farmers and fruit growers, fishermen and sailors, foresters, the operators of marine transportation, and every individual whose well-being is affected by the operation of storm-warning, hurricane-warning, and flood-warning services, are direct beneficiaries of the revolutionized service which came into being because aviation could not operate without it.

In like manner, every citizen of the United States benefits from and most of them use the Federal road system, which was originally created because the farmer could not market his products without it. Because that system is known as the *"public* road system" few regard it as a specialized enterprise conducted for the benefit of agriculture; in fact, it is not. Because the airway weather service is generally labeled *"airway,"* many regard it as a service maintained and appropriated for purely for the benefit of the planes that fly. That its primarily essential purpose similarly represents only a fraction of its usefulness to the people of America, is a consideration that is not to be overlooked.

Two years ago, the airway weather service was literally starved for lack of funds. Happily, a change of policy has been effected both by the Administration and by Congress. Much needed facilities began to become available under the program which the Budget Bureau approved and Congress in large measure appropriated in 1938-39. Continuation of the program will be possible under the estimates approved by the Budget Bureau for the fiscal year 1940. The budget authorities have given sympathetic and constructive consideration to the needs of the service.

However, the amounts which have been approved in the 1940 budget for the conduct of this service are sufficient to close only half of the gap which exists between the service as operated during the current fiscal year and the needs which exist and which prevent the service from operating at full usefulness.

To provide adequately for the safety and convenience of the public and the integrity of national defense, involves in the considered judgment of meteorologists outside of the Government service, achievement of the following recommendations of which Exhibit I is a summary, Exhibit II the detail as to locations and Exhibit III the arrangement of the data by states:

Group 1. Improvement of "surface" weather observations.

(a) At 36 important stations on the airway network (see Appendix 1; Exhibit II), the present Weather Bureau personnel consists of *one* competent commissioned civil service employee, on duty 8 hours per day, 6 days per week, except during vacations and on holidays and during any periods of unavoidable illness. During such times, and during the remaining hours of every day in the year, the highly essential task of making and transmitting by teletype the hourly weather observations at these points is handled by part-time inexperienced observers, secured locally. The accuracy of the observations at these points suffers in the extreme.

Adequate correction requires the stationing of a 5-man staff of competent full-time commissioned civil service observers at each of the 36 stations.

The Budget estimate includes enough money to man 10 stations, leaving 26 unprovided for.

(b) At 54 important airway stations (see Appendix 2), there is *no* competent meteorological personnel. Hourly weather observations at these, as well as many other points, are made and transmitted by employees of the Civil Aeronautics Authority who are chosen for their ability to operate radio or teletype facilities and to perform other tasks essential to the operation of the airway system, and who are not trained in weather observing and reporting and do not necessarily possess aptitude for that work. At these points, because of sudden and frequent weather changes, or heavy airmail, air transport, and other airplane traffic, it has become essential to have a competent Weather Bureau staff, composed of full-time commissioned personnel with meteorological training and ability, on duty 24 hours a day, to insure adequately accurate and timely observations and reports.

The Budget estimate includes enough money to staff 36 of these stations, leaving 18 unprovided for.

(c) Urgent need exists for doubling the frequency of reports from the so-called 6-hour "off-airway" stations. Of the 125 or more stations which have been established at points off the airways, to report surface weather changes before those changes move to and across the airways, only 20 are reporting at 3-hour intervals. The remaining stations (see Appendix 3) still report at 6-hour intervals. The essential information which these 112 stations have been established to secure, can only be put on the airway teletype or point-to-point radio four times in each 24 hours. The weather changes more frequently than that. The present infrequency engenders false

security. *All* off-airway stations should report at 3-hour intervals. The Budget estimate includes *no* funds for this purpose.

Moreover, there are gaps of serious consequence in this important reporting network. New, additional off-airway stations should be established, to report at 3-hour intervals, at 28 points (see Appendix 4) where such facilities do not now exist. The Budget estimate includes enough money to establish 25 of these stations, leaving 3 unprovided.

(d) There is imperative need for improving the accuracy of the weather observations made on ships at sea, and for increasing the number of reports received from this source and the number of elements or items comprehended in each report. The information gained from this source is indispensable in forecasting weather which moves inland from the oceans and the Gulf, and which would move in without warning if observations were not taken from shipboard, on the vessels of this and other nations, and transmitted by radio and cable to the forecasting centers.

Extension of the service at this time is imperatively necessary for protection of this Nation's expanding air services across the Pacific and the Atlantic. Information from the Pacific is necessary in order to anticipate weather changes moving eastward to the Pacific coast, where unforeknown disturbances may cause accidents to land planes before our western-most land observing stations can warn of them. Information from the Gulf is likewise needed to protect over-land as well as over-water flying. It scarecly needs be said, in addition, that the expansion of this service is directly beneficial to navigation on water, as well as to aviation; not to speak of its value in improving the accuracy and timeliness of storm and hurricane warnings, which are of dollar value to American citizens far outside of, as well as within, the transportation industries.

Reports are required from a far greater number of ships than are now reporting. *Four* reports per day should be secured from each vessel, in place of the *two* per day at present received from each ship now reporting. *Each report* should comprehend the *six* available elements or items (temperature, barometric pressure, wind direction and velocity, etc.), instead of only *four* items to which present reports are limited.

There is urgent need for Congress to appropriate enough money to pay for transmitting the reports of observations, including radio and cable charges; and to provide the necessary instruments to provide for a service from ships at sea which will make maximum use of the facilities that can be drawn upon. Conduct of this work on an adequate basis will require approximately $140,000 more dur-

ing the fiscal year 1940 than it would be possible to devote thereto within the limit of the Budget estimate.

To insure and improve the quality of the reports from vessels, a competent inspector and instructor should be stationed at each of the six principal American ocean and gulf ports (see Appendix 5), to instruct the persons who make weather observations and to inspect the instruments used.

The Budget estimate is sufficient to provide for four of these stations, leaving two unprovided for.

Upper-air observations also should be taken at sea. A recommendation on this subject is included in the second group of suggestions in this memorandum. However, before passing to that group, all of which relates to upper-air observing and reporting, there is one further recommendation primarily with respect to surface observations though related also to the upper air. That deals with the *almost totally unfilled need* for mountain observatories in the United States.

(e) Mountainous country presents to the aviator a terrain problem analogous to that which reefs and shoals present to the navigator. But in addition the aviator finds in such country problems of radio and weather which he does not find duplicated over ordinary terrain. These problems require special study, and special observations and reports. The mountain peaks of America have been utilized for astronomical observations, but never adequately for weather observing. Eight mountain observatories should be instituted and competently staffed for making both surface and upper-air observations. Suggested locations are listed in Appendix 6.

The Budget estimate is sufficient to provide for *two* observatories.

Group 2. Improvement of upper-air observations.

(a) Adequacy of human knowledge of air-mass movements depends on the securing of information from upper-air soundings (at altitudes up to 18,000 or 20,000 feet) at a sufficient number of points. That information is essential to safe flying. The number of points in the United States at which such observations are made, is seriously inadequate. Such points must be sufficiently numerous, and so distributed, as to record currently the changes along all the customary paths of air-mass movement. There should be established, without delay, 78 additional stations (see Appendix 7) for making daily observations (4 per day) of wind direction and velocity. At 46 of the 78 suggested locations, these observations could

be made in connection with other new activities proposed elsewhere in these recommendations.

The Budget estimate would provide sufficient funds to establish balloon observations at 49 of the 78 points, of which 42 would be in connection with proposed new airport meteorological stations. There would remain unprovided 29 stations, 25 of which are at important points at which there is now no Weather Bureau personnel.

(b) At 25 points (see Appendix 8), new stations should be immediately established for making daily radiometeorograph or airplane observations of upper-air weather conditions (temperature, pressure, humidity, etc.). Six of the recommended stations are necessary as replacements of service formerly rendered by the Army, which, however, has stopped making upper-air weather observations by airplane at the points indicated.

The Budget estimate is sufficiently large to permit establishment of 12 new stations, leaving no provision possible at 13 important points.

(c) Provision should be made for taking and reporting upper-air weather observations from ships at sea. Daily reports (4 per day) from 30 ships is suggested as an initial program.

The Budget estimate is sufficient to permit reports from *eight* ships only.

Group 3. Improvement of charting, analysis, and forecasting.

(a) Airway weather forecasts are prepared at 11 forecasting centers, of which four are in the East (Newark, Cleveland, Washington, Atlanta) and three are on the Pacific coast (Portland, Oakland, Burbank). The remaining four at Chicago, Kansas City, Fort Worth, and Salt Lake City. Accuracy and timeliness of forecasting would be improved by establishing two additional forecasting centers, in the Northwest and Southwest respectively. Such additional stations, at, for example, Billings, Montana, and Albuquerque, New Mexico, would fill territorial gaps, relieve strain on the neighboring forecasting stations, and better and accelerate the forecasting service.

Establishment of both new stations should be possible within the limits of the Budget estimate.

(b) The entire airway weather forecasting system up to this date has been developed with respect to domestic over-land flying. Its services to American overseas aviation have been willingly rendered but incidental. American overseas aviation must take its place in sharp international competition and must have the re-

sources of adequate information. The latter involves not only the observing and reporting for which recommendation has been made elsewhere in this memorandum, but also dependable forecasts designed and transmitted for use in overseas flying. The forecasts must utilize and interpret the weather reports from ships, and all other pertinent information, so as to be of specific value in guiding flights over the oceans, and they must disseminate the forecasts at times and by media that will make them of practical value in over-ocean flight. Three new forecasting centers, designed and staffed for this purpose, are immediately needed. The locations suggested are Long Island, New York, San Francisco, California, and Honolulu, Hawaii.

The Budget estimate will permit establishment of *two* of the stations only.

(c) At the Weather Bureau's present 11 airway general supervising and forecast centers (see Appendix 9), provision is needed for competent meteorologists trained in air-mass analysis, to instruct the forecasting personnel at those centers, and the meteorologists stationed at points along the airways in the respective districts; and by this means constantly improve the acquaintance of the entire airway forecasting personnel with the principles and methods of air-mass analysis and, thus, very materially improve the quality and accuracy of their forecasting and interpretation work.

The Budget estimate will permit this arrangement in full.

(d) At 17 important Weather Bureau airport offices (see Appendix 10), there is need for provision of competent meteorologists who can interpret weather reports and forecasts from hour to hour and be available for consultation by private, airline, and Government air-pilots with reference to the conditions likely to be encountered in projected flights. At such stations the meteorological staff should consist of five full-time commissioned civil service employees, similar to those recommended in Item 1(b) of this memorandum for service at the points listed in Appendix 2, but of higher ability, capable not only of observing and reporting but also of interpreting reports and forecasts and rendering competent advice to users of the airways.

The Budget estimate is sufficient to permit establishment of 15 of the 17 needed stations.

(e) At 31 cities (see Appendix 11), drops from the airway teletype circuits should be installed in the Weather Bureau city offices. Such installations will not only make airway weather information currently and directly available to local Post Office officials, newspapers, travelers, shippers, and the public generally,

but will also relieve the staff at the airport weather stations of the burden of handling local calls for weather information, now received in such number that I understand it has been necessary at many places for the Weather Bureau to unlist its airport-station telephones in order to permit the members of the staff at those stations to have time and opportunity to do their work.

The Budget estimate will provide for 25 of the 31 needed installations.

(f) By section 803 of the Civil Aeronautics Act, the Chief of the Weather Bureau, under the direction of the Secretary of Agriculture, is directed to

> "detail annually not to exceed ten members of the Weather Bureau personnel for training at Government expense, either at civilian institutions or otherwise, in advanced methods of meteorological science."

The provision quoted constitutes a long-deferred action in placing the meteorologists of the Weather Bureau on an equal footing with those of the Army and Navy with reference to advanced training in one of the most important elements of modern weather analysis and forecasting. All the more because the action was so long-deferred, appears the importance of taking full and immediate advantage of its authorization and direction. The funds necessary for this purpose should be appropriated.

(g) For the purpose of facilitating, by more frequent personal contact, the exchange of information and cementing of mutually beneficial working relationships between the Weather Bureau personnel in the States, and the aerological and meteorological personnel in Alaska, Cuba, and the island Territories and possessions, Canada, Bermuda, and the European and Latin-American countries, it is suggested that, in addition to such travel funds as may be otherwise available, there should be appropriated at least an additional $10,000 for the use of Weather Bureau supervisory personnel, Washington and field, for travel for these purposes.

Group 4. Improvement of Aeronautic Weather Service in Alaska.

The 586,000 square-mile Territory of Alaska is peculiarly dependent upon air transportation. Especially in the interior, where distances are great, terrain rugged, and weather conditions extreme, air transportation is destined to play an irreplacable role in the Territory's development. A well-organized and well functioning weather service is essential to the lives and property entrusted to

aircraft flight; and nowhere is that universal truth so forcefully applicable as in Alaska, where the need for adequate, timely, comprehensive weather reports and forecasts is intensified by the scarcity of landing fields. For instance along the air route from Fairbanks to Wiseman, a 200-mile route well within the Arctic Circle, there is not a single landing field. A plane that takes off from either end of this route must beyond peradventure know all that is humanly practicable about the weather he is likely to encounter; for if he meets unexpected weather he must go through or turn back. There is no "third alternative"; no possible other place to land. The instance is illustrative.

An adequate meterological service is vital to safe and efficient avaition, and Alaska does not have such a service. The limited service established in 1931 was the result of a Congressional appropriation of $26,695; and no increase was made in that annual amount until the current fiscal year ending June 30, 1939, when upon recommendation of the Secretary of Commerce, an additional $20,000 was secured.

When the additional appropriation became available, the airway weather service in Alaska, under the supervision of the Weather Bureau office at Juneau, consisted almost altogether of the work done at that station and the stations at Fairbanks and Nome. Scattered weather reports were collected at those stations, but no regular forecasts were issued for aeronautic use. The $20,000 increase permitted establishment of first-order Weather Bureau stations at Anchorage and Ruby, with facilities for making upper-air wind observations; also the assignment of additional employees to the existing stations at Juneau, Fairbanks, and Nome. Upper-air winds are now reported from the five stations; and all aviation, as well as many other American interests, has reason to be grateful for the institution of twice-daily airplane and radiometeorograph observations at Fairbanks in connection with a special research project financed with funds allotted by the Department of Agriculture.

But the existing service is altogether and immediately inadequate for the expanding needs of this growing Territory. The number of places from which weather observations are obtained should be materially increased. The points chosen should be carefully distributed to afford an adequate system of coverage, and the information should be intelligently collected. At least four observations should be made per day. Observations of weather conditions aloft should be secured at strategic points by means of pilot balloons and radiometeorographs (or, pending wide inauguration of the latter, by airplane observation). Forecasts should be

prepared at least once per day for the principal air routes now in operation and for such additional routes as may soon be opened.

It is therefore recommended (see Appendix 12):

1. That the existing first-order stations at Anchorage, Fairbanks and Juneau be strengthened by adding personnel and improving facilities, and that forecast centers be established at these stations.

2. That personnel be added and facilities improved at Bethel, Cordova and Ketchikan, to make the stations which now exist at these points into fully equipped first-order stations.

3. That radiometeorograph observations be taken at least twice daily at Anchorage, Fairbanks, Juneau and Ketchikan.

4. That pilot-balloon observations, on a schedule of at least 4 per day, be taken at the six above-mentioned stations.

5. That at 63 points there be established second-order airway weather stations, equipped and manned to render at least 4 reports per day.

It is felt that, with the improvements proposed, Alaska would be provided with an airway weather service which, in ratio to its present and immediately prospective needs, would be comparable to that of the States. The importance of bringing the service to and maintaining it at such a level is made more urgent by the circumstances that Alaska does not have, and apparently will not have in the near future, a general weather service comparable to that maintained in the States. The Alaska airway weather facilities must stand almost altogether on their own. Incidentally, they will contribute much to the purposes and functions which in the States the general weather service seeks to furnish; and therefore will be of incalculable value to all interests in the Territory, and not merely to aviation.

The Budget estimate provides funds sufficient to effect the additions and improvements set out in the first four items of the foregoing list, and to establish 33 of the 63 needed second-order stations.

Conclusion

Including the provision of the foregoing urgently needed facilities and services for Alaska, it has been estimated that all the necessary corrections can be made, and all the present inadequacies in the airway weather service eliminated, by annually adding approximately $2,959,000 to the 1939 appropriation.

Every item not so provided for will remain an enduring threat to the safety and efficiency of American Aeronautics, and to the safety and convenience of millions of Americans for whom air travel

and trade and air-mail service have become not merely a convenience, but a commercial and economic necessity.

Moreover, aside from every consideration normal to civil life, this country is annually expending in its national defense approximately 1⅓ billions of dollars. Without provision of accurate, timely and complete weather information at every point on and off the nation's airways, where weather information may be essential, this highly important activity—the national defense—may be rendered useless at a moment of national emergency, if, weather conditions be adverse. Not only might our country's safety be at least temporarily jeopardized under such conditions, but failure to provide the relatively small appropriation for the needed additions, weather service might well prove comparable to the traditional failure to provide the nail for the horseshoe for want of which the battle was lost.

EXHIBIT I

SUMMARY OF ADDITIONAL APPROPRIATIONS NECESSARY TO FILL GAPS IN THE AIRWAY WEATHER SERVICE

February 21, 1939

For Consideration in Connection With Appropriations for Fiscal Year Ending June 30, 1940

	Recommendation	*Possible Under Budget Estimate*	*NOT Possible Under Budget Estimate*
1. *To improve "surface" weather observations and reports:*			
(a) Replace present personnel with commissioned civil-service personnel at airway teletype stations now manned by Weather Bureau. (See Appendix 1):			
(1) Recommendation: 36 stations	$180,000		
(2) Possible under Budget estimate: 10 stations		$63,000	
(3) Not possible under Budget estimate: 26 stations			$130,000
(b) At important airway stations now without meterological personnel provide Weather Bureau staffs competent to make accurate weather observations and reports and prepare weather maps. (See Appendix 2):			
(1) Recommendation: 54 stations	585,000		
(2) Possible under Budget estimate: 36 stations		390,000	
(3) Not possible under Budget estimate: 18 stations			195,000
(c) Provide more weather reports from stations off the airways:			
(1) At important existing off-airway stations, increase the frequency of observations and reports from 4 per day (6-hour intervals) to 8 per day (3-hour intervals). (See Appendix 3):			

	Recommendation	*Possible Under Budget Estimate*	*NOT Possible Under Budget Estimate*
a. Recommendation: 112 stations	168,000		
b. Possible under Budget estimate: NONE		—	
c. Not possible under Budget estimate: 112 stations			$168,000
(2) Establish additional off-airway stations at points where information concerning weather moving toward the airways is lacking and badly needed; stations to report at 3-hour intervals. (See Appendix 4);			
a. Recommendation: 28 stations	$85,000		
b. Possible under Budget estimate: 25 stations		$75,000	
c. Not possible under Budget estimate: 3 stations			10,000
(d) Improve accuracy of reports, and add to number of elements reported and number of reports received, of weather observations made by ships at sea:			
(1) Increase number of vessels from which reports are received; increase to 4 per day the number of reports from each vessel (now 2 per day); and increase to 6 the number of items (code groups, now 4) included in each report:			
a. Recommendation	300,000		
b. Possible under Budget estimate:		160,000	
c. Not possible under Budget estimate:			140,000
(2) Provide inspectors at principal seaports, to instruct personnel who make weather observations on U. S. ships at sea, and to inspect instruments. (See Appendix 5):			
a. Recommendation: 6 stations	15,000		
b. Possible under Budget. estimate: 4 stations		10,000	
c. Not possible under Budget estimate: 2 stations			5,000
(e) Establish mountain observatories, for observing and reporting surface and upper-air weather conditions in mountainous territory. (See Appendix 6):			
1. Recommendation: 8 stations	106,500		
2. Possible under Budget estimate: 2 stations		26,500	
3. Not possible under Budget estimate: 6 stations			80,000
	1,439,500	724,500	728,000
2. *To improve observations and reports of upper-air winds and Weather conditions:*			
(a) Establish additional pilot-balloon observation points. (See Appendix 7):			
1. Recommendation: 78 stations, including 33 at which there is no present Weather Bureau staff	280,000		
2. Possible under Budget estimate: 49 stations, including 7 at which there is no present Weather Bureau staff		100,000	

	Recommendation	*Possible Under Budget Estimate*	*NOT Possible Under Budget Estimate*
3. Not possible under Budget estimate: 29 stations, including 25 at which there is no present Weather Bureau staff			$180,000
(b) Establish additional radiometeorograph or airplane observation points. (See Appendix 8):			
1. Recommendation: 25 stations	$375,000		
2. Possible under Budget estimate: 12 stations		$180,000	
3. Not possible under Budget estimate: 13 stations			195,000
(c) Provide for taking and reporting upper-air weather from ships at sea:			
1. Recommendation	120,000		
2. Possible under Budget estimate		32,000	
3. Not possible under budget estimate			88,000
	775,000	312,000	463,000
3. *To improve charting, analysis, and forecasting:*			
(a) Establish airway general supervising and forecast centers at Albuquerque, N. Mex. and Billings, Mont.:			
1. Recommendation: 2 stations	50,000		
2. Possible under Budget estimate: 2 stations		50,000	
3. Not possible under Budget estimate			—
(b) Establish forecast centers for over-ocean flying, at Long Island, N. Y., San Francisco, Calif., and Honolulu, T. H.:			
1. Recommendation: 3 stations	120,000		
2. Possible under Budget estimate: 2 stations		80,000	
3. Not possible under Budget estimate: 1 station			40,000
(c) At the airway general supervising and forecast centers provide meteorologists trained in air-mass analysis, to instruct forecasting personnel in the several districts. (See Appendix 9):			
1. Recommendation: 11 stations	40,000		
2. Possible under Budget estimate: 11 stations		40,000	
3. Not possible under Budget estimate			—
(d) At important airway stations now without meteorological services of the necessary grade, provide a Weather Bureau staff competent to make accurate observations and reports, prepare weather maps, interpret reports, and consult with and advise aviators. (See Appendix 10):			
1. Recommendation: 17 stations	200,000		
2. Possible under Budget estimate: 15 stations		176,500	
3. Not possible under Budget estimate: 2 stations			23,500
(e) At important airport cities, install teletype drops in Weather Bureau city offices, to make airway weather information available to city and public and relieve Weather Bureau airport staff of burden which interferes with their primary work and imperils safety. (See Appendix 11):			

	Recommendation	*Possible Under Budget Estimate*	*NOT Possible Under Budget Estimate*
1. Recommendation: 31 stations	$62,000		
2. Possible under Budget estimate: 25 stations		—	
3. Not possible under Budget estimate: 6 stations			$12,000
(f) Provide for training 10 members of the Weather Bureau personnel, at Government expense, at civilian or other institutions, in advanced methods of meteorological science, as authorized and directed by sec. 803 of the Civil Aeronautics Act:			
1. Recommendation	30,000		
2. Possible under Budget estimate		*	
3. Not possible under budget estimate			*
(g) Provide additional travel expense funds to permit closer contact and promote exchange of weather information with Territories, possessions and foreign countries:			
1. Recommendation	10,000		
2. Possible under Budget estimate		—	
3. Not possible under Budget estimate			10,000
	512,000	346,500	85,500
4. *To provide aeronautic weather service in Alaska:*			
a. Recommendation	300,000		
b. Possible under Budget estimate		225,000	
c. Not possible under Budget estimate			75,000
	3,206,500	1,608,000	1,351,000

* It is understood that the requirement is being partly met, and can be fully met, from other Weather Bureau funds.

EXHIBIT II

APPENDIX 1.

AIRWAY WEATHER OBSERVATION POINTS AT WHICH PRESENT PART-TIME UNTRAINED OBSERVERS SHOULD BE REPLACED WITH COMMISSIONED PERSONNEL

(1) Points which should be *raised* to *full complement* of commissioned civil-service employees (now *but* one such observer at each station).

A. *Possible under Budget allowance:*

Eugene, Ore.	Madison, Wis.
Grand Island, Nebr.	Muskegon, Mich.
Iowa City, Iowa	New Haven, Conn.
Lincoln, Nebr.	Providence, R. I.
Long Beach, Calif.	Rochester, N. Y.

(10 stations)

B. *Not contemplated in Budget allowance:*

Alexandria, Minn.	Roseburg, Ore.
Baker, Ore.	St. Cloud, Minn.
Bear Mountain, N. Y.	St. Joseph, Mo.
Beaumont, Calif.	St. Paul, Minn.
Bellingham, Wash.	Salem, Ore.
Burlington, Iowa	Siskiyou Summit, Ore.
Centerville, Ind.	Sunbury, Pa.
Chehalis, Wash.	Trenton, N. J.
Coalville, Wash.	Waterman, Ill.
Crown Point, Ore.	Waynoka, Okla.

East Liverpool, Ohio
Gainesville, Texas
Joliet, Ill.
Marshall, Mo.
Montague, Calif.
Wolf Creek, Ore.

(26 stations)

APPENDIX 2.

AIRWAY WEATHER STATIONS NOW WITHOUT METEOROLOGICAL PERSONNEL,, AT WHICH A COMPETENT WEATHER BUREAU STAFF IS REQUIRED IN ORDER TO SECURE ACCURATE OBSERVATIONS AND REPORTS

A. *Possible under Budget allowance:*

Allentown, Pa.*
Austin, Texas
Bakersfield, Calif.*
Bangor, Me.*
Boise, Idaho*

Caribou, Me.*
Chattanooga, Tenn.*
Corpus Christi, Texas*
Dodge City, Kans.
Elko, Nev.*

Ellensburg, Wash.*
Erie, Pa.*
Fresno, Calif.*
Fort Wayne, Ind.*
Goshen, Ind.*

La Crosse, Wis.*
Macon, Ga.
Melbourne, Fla.*
Mercer, Pa.*
Missoula, Mont.*

Modesto, Calif.*
Montgomery, Ala.*
North Platte, Nebr.
Parkersburg, W. Va.*
Portland, Me.*

Roanoke, Va.*
Savannah, Ga.*
Sheridan, Wyo.*
Shreveport, La.*
Sioux City, Iowa*

Springfield, Mo.
Tallahassee, Fla.*
Terre Haute, Ind.*
Waco, Texas*
Wayne County Airport, Mich.
Wichita Falls, Texas*

(36 stations)

B. *Not contemplated in Budget allowance:*

Baton Rouge, La.
Bellefonte, Pa.
Bristol, Tenn.
Burley, Idaho
Burlington, Vt.

Columbia, Mo.
Concord, N. H.
Enterprise, Utah*
Lansing, Mich.
Lynchburg, Va.

March Field, Calif.
Meridian, Miss.
Peoria, Ill.
Rockford, Ill.
Texarkana, Texas

Trinidad, Colo.*
Tucumcari, N. Mex.*
Williamsport, Pa.*

(18 stations)

---

* Pilot-balloon observations should be taken at these stations. See Appendix 7.

APPENDIX 3.

OFF-AIRWAY WEATHER OBSERVATION AND REPORTING STATIONS NOW REPORTING EVERY *SIX* HOURS, AT WHICH OBSERVATIONS AND REPORTS SHOULD BE MADE EVERY *THREE* HOURS

A. *Possible under budget allowance:*

None.

B. *Not contemplated in Budget allowance:*

Akron, Colo.
Alexandria, La.
Alger, Ohio
Alpena, Mich.
Americus, Ga.

Eastport, Maine
Elk City, Okla.
Ellis, Kansas
Ely, Nev.
Escanaba, Mich.

Laredo, Texas
Leadville, Colo.
Lemmon, S. Dak.
Lubbock, Texas
Lufkin, Texas

Asheville, N. C.
Austin, Nev.
Batesville, Ark.
Bemidji, Minn.
Bend, Ore.

Big Piney, Wyo.
Binghamton, N. Y.
Bonners Ferry, Idaho
Brady, Texas
Burwell, Nebr.

Canton, N. Y.
Carrizozo, N. Mex.
Chadron, Nebr.
Charles City, Iowa
Clayton, N. Mex.

Clinton, Mo.
Cody, Wyo.
Columbia, S. C.
Colville, Wash.
Concordia, Kansas

Craig, Colo.
Crownpoint, N. Mex.
Cut Bank, Mont.
Delaware Breakwater, Del.
Del Rio, Texas

Devils Lake, N. Dak.
Dubuque, Iowa
Duchesne, Utah
Duluth, Minn.
Durango, Colo.

Estero, Calif.
Evansville, Ind.
Flat Top, W. Va.
Fort Bragg, Cal.
Fort Meyers, Fla.

Fort Peek, Mont.
Fort Smith, Ark.
Frankfort, Mich.
Frostburg, Md.
Garrison, N. Dak.

Glendive, Mont.
Goodland, Kans.
Gr'd Canyon, Ariz.
Grangeville, Idaho
Green Bay, Wis.

Green River, Utah
Greenville, Maine
Greenville, N. C.
Havre, Mont.
Hawthorne, Nev.

Hinckley, Minn.
Hood River, Ore.
Houghton, Mich.
Independence, Cal.
Iowa Falls, Iowa

Kalispell, Mont.
Knapp, Creek, N.Y.
Lake Placid, N. Y.
Lakeview, Ore.
Lander, Wyo.

Marquette, Mich.
McAlester, Okla.
Mobridge, S. Dak.
Modena, Utah
Mogollon, N. Mex.

Monticello, Ark.
Mt. Ayr, Iowa
Newcastle, Wyo.
Paris, Tenn.
Park Falls, Wis.

Phillipsburg, Kansas
Pikeville, Ky.
Pt. Arena, Calif.
Roswell, N. Mex.
Rumford, Maine

Salmon, Idaho
Snow Hill, Md.
Springfield, Minn.
Stearne, Ky.
Susanville, Calif.

Thomasville, Ga.
Tonapah, Nev.
Topeka, Kansas
Urbanna, Va.
Valentine, Nebr.

Washington, Ind.
Wausau, Wis.
Wenatchee, Wash.
West Plains, Mo.
Whitehall, N. Y.

White River Junction, Vt.
Wilmington, N. C.
Winchester, Ky.
Winnemucca, Nev.
Yakima, Wash.

Yellowstone Park, Wyo.
Yuma, Ariz.

(112 stations)

APPENDIX 4.

POINTS AT WHICH NEW OFF-AIRWAY WEATHER OBSERVATION AND REPORTING STATIONS SHOULD BE ESTABLISHED

A. ***Possible under Budget allowance:***

Adelphia, Ohio
Benton, Ill.
Blanding, Utah
Brainerd, Minn.
Brattleboro, Vt.

Broadus, Mont.
Center Nebr.
Delhi, N. Y.
Fairmont, W. Va.
Guthrie, Texas

Guymon, Okla.
Hayesville, N. C.
International Falls, Minn.
Jordan, Mont.
Louisiana, Mo.

Metter, Ga.
Montello, Wis.
Packard, Ariz.
Port Eads, La.
Rankin, Texas

Roseau (or Baudette), Minn.
Seneca, Kansas
Sonora, Texas
Trenton, Fla.
Watertown, N. Y.

(25 stations)

B. ***Not contemplated in Budget allowance:***

Clovis, N. Mex.
Inyokern, Calif.
Waynesburg, Pa.

(3 stations)

APPENDIX 5.

SEAPORTS AT WHICH INSPECTORS ARE NEEDED, TO INSTRUCT PERSONNEL WHO MAKE WEATHER OBSERVATIONS ON U. S. SHIPS AT SEA, AND TO INSPECT INSTRUMENTS USED

A. *Possible under Budget allowance:*

Atlantic: New York

Gulf: New Orleans

Pacific: San Francisco
Seattle

(4 ports)

B. *Not contemplated in Budget allowance:*

Atlantic: Norfolk

Pacific: Los Angeles

(2 ports)

APPENDIX 6.

SUGGESTED LOCATIONS FOR 8 MOUNTAIN OBSERVATORIES FOR MAKING BOTH SURFACE AND UPPER-AIR OBSERVATIONS

A. *Possible under Budget allowance:*

Pike's Peak, Colo.
Whiteface Mountain, N. Y.
(2 stations)

B. *Not contemplated in Budget allowance:*

Appalacian Mountains, Pa. or Md.
Olympic Mountains, Wash.
Mt. Wilson, Calif.
Mt. Evans, Colo.
Appalachian Mountains, Va.
Mt. Mitchell, N. C.
(6 stations)

APPENDIX 7.

PROPOSED LOCATIONS FOR ADDITIONAL PILOT-BALLOON STATIONS FOR DETERMINING DIRECTION AND VELOCITY OF WINDS ALOFT

A. *Possible under Budget allowance:*

Allentown, Pa.*
Alpena, Mich.
Augusta, Ga.*
Austin, Texas*
Bakersfield, Calif.*

Bangor, Me.*
Big Spring, Texas*
Caribou, Me.*
Casper, Wyo.*
Charleston, W. Va.*

Chattanooga, Tenn.*
Corpus Christi, Texas*
Duluth, Minn.
Eastport, Me.
Elko, Nev.*

Ellensburg, Wash.*
Erie, Pa.*
Fort Wayne, Ind.*
Goshen, Ind.*
Great Falls, Mont.*

Marquette, Mich.
Melbourne, Fla.*
Mercer, Pa.*
Miles City, Mont.*
Modesto, Calif.*

Montgomery, Ala.*
Nantucket, Mass.
Norfolk, Va.*
Parkersburg, W. Va.*
Pembina, N. Dak.*

Portland, Me.*
Raleigh, N. C.*
Roanoke, Va.*
Roswell, N. Mex.
Savannah, Ga.*

Sheridan, Wyo.*
Shreveport, La.*
Sioux City, Iowa*
Tallahassee, Fla.*
Terre Haute, Ind.*

Green Bay, Wis.
Helena, Mont.*
Kingman, Ariz.*
LaCrosse, Wis.*
Lake Charles, La.*
Tucson, Ariz.*
Vandalia, Ohio*
Waco, Texas*
Wichita Falls, Texas*

(49 stations)

B. *Not contemplated in Budget allowance:*

Apalachicola, Fla.
Canton, N. Y.
Bend, Ore.
Burley, Idaho
Charles City, Iowa
Concordia, Kansas
Devils Lake, N. Dak.
Enterprise, Utah*
Eureka, Calif.
Fort Smith, Ark.
Hatteras, N. C.
Kalispell, Mont.
King City, Calif.
Lakeview, Ore.
Lander, Wyo.
Lansing, Mich.
McRae, Ga.
North Bend, Ore.
North Head, Wash.
Tatoosh Island, Wash.
Tonopah, Nev.
Trinidad, Colo.*
Tucumcari, N. Mex.*
Valentine, Nebr.
Williamsport, Penna.*
Williston, N. Dak.
Wilmington, N. C.
Yellowstone Park, Wyo.
Yuma, Ariz.

(29 stations)

---

* Indicates observations are to be established in connection with proposed new airport meteorological stations. See Appendices Nos. 2 and 10.

APPENDIX 8.

PROPOSED LOCATIONS FOR ADDITIONAL RADIOMETEOROGRAPH OR AIRPLANE OBSERVATION STATIONS FOR DETERMINING UPPER AIR-WEATHER CONDITIONS

A. *Possible under Budget allowance:*

Albuquerque, N. Mex.*
Atlanta, Ga.*
Boise, Idaho
Buffalo, N. Y.*
Charleston, S. C.*
Medford, Ore.
Miami, Fla.*
Minneapolis, Minn.
Phoenix, Ariz.
St. Louis, Mo.*
San Antonio, Texas*
Seattle, Wash.

(12 stations)

B. *Not contemplated in Budget allowance:*

Amarillo, Texas
Boston, Mass.*
Brownsville, Texas
Detroit, Mich.*
Floyd Bennett Field, L. I., N. Y.
Greensboro, N. C.
Houston, Texas
Jacksonville, Fla.
Kansas City, Mo.
Montgomery, Ala.*
Pittsburgh, Penna.
Tucson, Ariz.
Vicksburg, Miss.

(13 stations)

---

* Indicates station required to fill gap caused by Army ceasing to make airplane observations at point named.

APPENDIX 9.

WEATHER BUREAU AIRWAY GENERAL SUPERVISING AND FORECAST CENTERS

Note: At each of the following 11 points, a meteorologist, trained in air-mass analysis should be assigned for instruction of forecasting personnel within the respective airway districts for which these points are the headquarters.

A. Possible under Budget allowance:

Arlington, Va.
Atlanta, Ga.
Burbank, Calif.
Chicago, Ill.
Cleveland, Ohio
Fort Worth, Tex.
Kansas City, Mo.
Newark, N. J.
Oakland, Calif.
Salt Lake City, Utah
Seattle, Wash.

(11 stations)

B. Not contemplated in Budget allowance:

None.

APPENDIX 10.

AIRWAY STATIONS NOW WITHOUT METEOROLOGICAL PERSONNEL, AT WHICH A COMPETENT WEATHER BUREAU STAFF IS REQUIRED IN ORDER TO PREPARE WEATHER MAPS AND INTERPRET REPORTS

A. Possible under Budget allowance.

Amarillo, Texas
Augusta, Ga.*
Big Spring, Texas
Casper, Wyo.*
Charleston, W. Va.*
Great Falls, Mont.*
Helena, Mont.*
Kingman, Ariz.*
Lake Charles, La.*
Miles City, Mont.*
Norfolk, Va.*
Pembina, N. Dak.*
Raleigh, N. C.
Tucson, Ariz.*
Vandalia, Ohio*

(15 stations)

B. Not contemplated in Budget allowance:

Galveston, Texas
Monroe, La.

(2 stations)

---

* Pilot-balloon observations should be taken at these stations. See Appendix 7.

APPENDIX 11.

WEATHER BUREAU CITY OFFICES WHICH SHOULD BE CONNECTED WITH AIRWAY TELETYPE CIRCUITS

A. Possible under Budget allowance:

Atlanta, Ga.
Baltimore, Md.
Boston, Mass.
Buffalo, N. Y.
Cincinnati Ohio
Cleveland, Ohio
Columbus, Ohio
Davenport, Iowa
Des Moines, Iowa
Hartford, Conn.
Houston, Texas
Louisville, Ky.
Memphis, Tenn.
Miami, Fla.
Milwaukee, Wis.
Minneapolis, Minn.
Nashville, Tenn.
Omaha, Nebr.
Philadelphia, Penna.
Richmond, Va.
Sacramento, Calif.
Salt Lake City, Utah
San Antonio, Texas
Spokane, Wash.
Wichita, Kansas

(25 stations)

B. Not contemplated in Budget allowance:

Birmingham, Ala.
Brownsville, Texas
Dallas, Texas
Little Rock, Ark.
Norfolk, Va.
Topeka, Kansas

(6 stations)

APPENDIX 12.

WEATHER BUREAU AIDS NEEDED IN ALASKA

1. Add personnel and improve facilities at existing first-order station, and establish forecast center:

   Anchorage
   Fairbanks
   Juneau

2. Add personnel and improve facilities to constitute fully equipped first-order airway weather station:

   Bethel
   Cordova
   Ketchikan

3. Establish radiometeorograph observation station:

   Anchorage
   Fairbanks
   Juneau
   Ketchikan

4. Establish pilot-balloon observation station:

   Anchorage
   Bethel
   Cordova
   Fairbanks
   Juneau
   Ketchikan

5. Add personnel and improve facilities to constitute fully-equipped second-order airway weather station, or establish new second-order station where none now exists:

Barrow	Kake	Seward
Big Detta	Kodiak	Shungnak
Cantwell	Kotzebue	Sitka
Cape Hinchinbrook	Koyuk	Skagway
Cape St. Elias	Lake Minchumina	Slana
Cape Spencer	Lincoln Rock	Stevens
Chignik	McCarty	Taku Pass
Copper Center	McGrath	Talkeetna
Craig	Metlakatla	Tanana
Deering	No Grub	Tanana Crossing
Dillingham	Numato	Tenakee
Eagle	Paxson	Tigara
Farewell	Petersburg	Tree Point
Flat	Platinum	Unalakleet
Fort Yukon	Point Baker	Unalaska
Gambell	Point Retreat	Valdez
Hoonah	Port Alexander	Wiseman
Hydaburg	Radioville	Wrangell
Hyder	Rapids	Yakataka
Iliamna	Ruby	Yakutat
	St. Paul Island	
	Scotch Cap	
	Seldovia	

EXHIBIT III

MASTER LIST, BY STATES, OF POINTS WHERE ADDITIONS AND IMPROVEMENTS ARE NEEDED IN WEATHER BUREAU AEROLOGICAL AND AIRWAY METEOROLOGICAL SERVICES, FEBRUARY 21, 1939

(For Alaska see Appendix 12 of Exhibit II)

Alabama	
Birmingham	Connect Weather Bureau city office with airway teletype.
Montgomery	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
	Establish radiometeorograph station.
Arkansas	
Batesville	Increase staff so as to double the present number of daily reports.
Fort Smith	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Little Rock	Connect Weather Bureau city office with airway teletype.
Monticello	Increase staff so as to double the present number of daily reports.
Arizona	
Grand Canyon	Increase staff so as to double present number of daily reports.
Kingman	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Packard	Establish new off-airway station.
Phoenix	Establish radiometeorograph station.
Tucson	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
	Establish radiometeorograph station.
Yuma	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
California	
Bakersfield	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Beaumont	Replace part-time untrained observers with commissioned personnel.
Burbank	Provide meteorologist to instruct district forecasting personnel in air-mass-analysis.
Estero	Increase staff so as to double the present number of daily reports.
Eureka	Establish pilot-balloon station.
Fort Bragg	Increase staff so as to double the present number of daily reports.
Fresno	Install Weather Bureau meteorological personnel.
Independence	Increase staff so as to double the present number of daily reports.
Inyokern	Establish new off-airway station.
King City	Establish pilot-balloon station.

Long Beach	Replace part-time untrained observers with commissioned personnel.
Los Angeles	Provide inspector-instructor to improve reporting from ships at sea.
March Field	Install Weather Bureau meteorological pesonnel.
Modesto	Install Weather Bureau meteorological pesonnel.
	Establish pilot-balloon station.
Montague	Replace part-time untrained observers with commissioned personnel.
Oakland	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
Mt. Wilson	Establish mountain observatory.
Pt. Arena	Increase staff so as to double the present number of daily reports.
Sacramento	Connect Weather Bureau city office with airway teletype.
San Francisco	Provide inspector-instructor to improve reporting from ships at sea.
Susanville	Increase staff so as to double the present number of daily reports.

Colorado

Akron	Increase staff so as to double the present number of daily reports.
Craig	Increase staff so as to double the present number of daily reports.
Durango	Increase staff so as to double the present number of daily reports.
Leadville	Increase staff so as to double the present number of daily reports.
Mt. Evans	Establish mountain observatory.
Pike's Peak	Establish mountain observatory.
Trinidad	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.

Connecticut

Hartford	Connect Weather Bureau city office with airway teletype.
New Haven	Replace part-time untrained observers with commissioned personnel.

Delaware

Delaware Breakwater	Increase staff so as to double the present number of daily reports.

Florida

Apalachicola	Establish pilot-balloon station.
Fort Myers	Increase staff so as to double the present number of daily reports.
Jacksonville	Establish radiometeorograph station.
Melbourne	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Miami	Connect Weather Bureau city office with airway teletype.
Tallahassee	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Trenton	Establish new off-airway station.

Georgia

Americus	Increase staff so as to double the present number of daily reports.
Atlanta	Establish radiometeorograph station.
	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
	Connect Weather Bureau city office with airway teletype.
Augusta	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Macon	Install Weather Bureau meteorological personnel.
McRae	Establish pilot-balloon station.
Metter	Establish new off-airway station.
Savannah	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Thomasville	Increase staff so as to double the present number of daily reports.

Idaho

Boise	Install Weather Bureau meteorological personnel.
	Establish radiometeorograph station.
Bonners Ferry	Increase staff so as to double the present number of daily reports.
Burley	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Grangeville	Increase staff so as to double the present number of daily reports.
Salmon	Increase staff so as to double the present number of daily reports.

Illinois

Benton	Establish new off-airway station.
Chicago	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
Joliet	Replace part-time untrained observers with commissioned personnel.
Peoria	Install Weather Bureau meteorological personnel.
Rockford	Install Weather Bureau meteorological personnel.
Waterman	Replace part-time untrained observers with commissioned personnel.

Indiana

Centerville	Replace part-time untrained observers with commissioned personnel.
Evansville	Increase staff so as to double the present number of daily reports.
Ft. Wayne	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Goshen	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Terre Haute	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Washington	Increase staff so as to double the present number of daily reports.

Iowa

Burlington	Replace part-time untrained observers with commissioned personnel.
Charles City	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Davenport	Connect Weather Bureau city office with airway teletype.
Des Moines	Connect Weather Bureau city office with airway teletype.
Dubuque	Increase staff so as to double the present number of daily reports.
Iowa City	Replace part-time untrained observers with commissioned personnel.
Iowa Falls	Increase staff so as to double the present number of daily reports.
Mt. Ayr	Increase staff so as to double the present number of daily reports.
Sioux City	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.

Kansas

Concordia	Establish pilot-balloon station.
	Increase staff so as to double the present number of daily reports.
Dodge City	Install Weather Bureau meteorological personnel.
Ellis	Increase staff so as to double the present number of daily reports.
Goodland	Increase staff so as to double the present number of daily reports.
Phillipsburg	Increase staff so as to double the present number of daily reports.
Seneca	Establish new off-airway station.
Topeka	Increase staff so as to double the present number of daily reports.
	Connect Weather Bureau city office with airway teletype.
Wichita	Connect Weather Bureau city office with airway teletype.

Kentucky

Louisville	Connect Weather Bureau city office with airway teletype.
Pikeville	Increase staff so as to double the present number of daily reports.
Stearne	Increase staff so as to double the present number of daily reports.
Winchester	Increase staff so as to double the present number of daily reports.

Louisiana

Alexandria	Increase staff so as to double the present number of daily reports.
Baton Rouge	Install Weather Bureau meteorological personnel.
Lake Charles	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Monroe	Install Weather Bureau meteorological personnel.
New Orleans	Provide inspector-instructor to improve reporting from ships at sea.
Port Eads	Establish new off-airway station.
Shreveport	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.

Maine

Bangor	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Caribou	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Eastport	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Greenville	Increase staff so as to double the present number of daily reports.
Portland	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Rumford	Increase staff so as to double the present number of daily reports.

Maryland

Appalachian Mts. (or Penn.)	Establish mountain observatory.
Baltimore	Connect Weather Bureau city office with airway teletype.
Frostburg	Increase staff so as to double the present number of daily reports.
Snow Hill	Increase staff so as to double the present number of daily reports.

Massachusetts

Boston	Establish radiometeorograph station.
	Connect Weather Bureau city office with airway teletype.

Michigan

Alpena	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Detroit	Establish radiometeorograph station.
Escanaba	Increase staff so as to double the present number of daily reports.
Frankfort	Increase staff so as to double the present number of daily reports.
Houghton	Increase staff so as to double the present number of daily reports.
Lansing	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Marquette	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Muskegon	Replace part-time untrained observers with commissioned personnel.
Wayne County Airport	Install Weather Bureau meteorological personnel.

Minnesota

Alexandria	Replace part-time untrained observers with commissioned personnel.
Bemidji	Increase staff so as to double the present number of daily reports.
Brainerd	Establish new off-airway station.
Duluth	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Hinckley	Increase staff so as to double the present number of daily reports.
Int. Falls	Establish new off-airway station.

Minneapolis	Establish radiometeorograph station.
Roseau (or Baudette)	Establish new off-airway station.
Springfield	Increase staff so as to double the present number of daily reports.
St. Cloud	Replace part-time untrained observers with commissioned personnel.
St. Paul	Replace part-time untrained observers with commissioned personnel.

Mississippi

Meridian	Install part-time untrained observers with commissioned personnel.
Vicksburg	Establish radiometeorograph station.

Missouri

Clinton	Increase staff so as to double the present number of daily reports.
Columbia	Install Weather Bureau meteorological personnel.
Kansas City	Establish radiometeorograph station.
	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
Louisiana	Establish new off-airway station.
Marshall	Replace part-time untrained observers with commissioned personnel.
Springfield	Install Weather Bureau meteorological personnel.
St. Joseph	Replace part-time untrained observers with commissioned personnel.
St. Louis	Establish radiometeorograph station.
West Plains	Increase staff so as to double the present number of daily reports.

Montana

Billings	Establish airway general supervising and district forecasting center.
Broadus	Establish new off-airway station.
Cut Bank	Increase staff so as to double the present number of daily reports.
Ft. Peck	Increase staff so as to double the present number of daily reports.
Glendive	Increase staff so as to double the present number of daily reports.
Great Falls	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Havre	Increase staff so as to double the present number of daily reports.
Helena	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Jordan	Establish new off-airway station.
Kalispell	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Miles City	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Missoula	Install Weather Bureau meteorological personnel.

Nebraska

Burwell	Increase staff so as to double the present number of daily reports.
Center	Establish new off-airway station.

Chadron	Increase staff so as to double the present number of daily reports.
Grand Island	Replace part-time untrained observers With commissioned personnel.
Lincoln	Replace part-time untrained observers with commissioned personnel.
North Platte	Install Weather Bureau meteorological personnel.
Omaha	Connect Weather Bureau city office with airway teletype.
Valentine	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.

Nevada

Austin	Increase staff so as to double the present number of daily reports.
Elko	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Ely	Increase staff so as to double the present number of daily reports.
Hawthorne	Increase staff so as to double the present number of daily reports.
Tonopah	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Winnemucca	Increase staff so as to double the present number of daily reports.

New Hampshire

Concord	Install Weather Bureau meteorological personnel.

New Jersey

Newark	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
Trenton	Replace part-time untrained observers with commissioned personnel.

New Mexico

Albuquerque	Establish radiometeorograph station.
	Establish airway general supervising and district forecast center.
Carrizozo	Increase staff so as to double the present number of daily reports.
Clayton	Increase staff so as to double the present number of daily reports.
Clovis	Establish new off-airway station.
Crownpoint	Increase staff so as to double the present number of daily reports.
Mogollon	Increase staff so as to double the present number of daily reports.
Roswell	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Tucumcari	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.

New York

Bear Mt.	Replace part-time untrained observers with commissioned personnel.
Binghamton	Increase staff so as to double the present number of daily reports.

Buffalo	Establish radiometeorograph station.
	Connect Weather Bureau city office with airway teletype.
Canton	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Delhi	Establish new off-airway station.
Floyd Bennett Field, L. I.	Establish radiometeorograph station.
	Establish forecast center for over-ocean flying.
Knapp Creek	Increase staff so as to double the present number of daily reports.
Lake Placid	Increase staff so as to double the present number of daily reports.
New York	Provide inspector-instructor to improve reporting from ships at sea.
Rochester	Replace part-time untrained observers with commissioned personnel.
Whiteface Mt.	Establish mountain observatory.
Whitehall	Increase staff so as to double the present number of daily reports.
Watertown	Establish new off-airway station.

North Carolina

Asheville	Increase staff so as to double the present number of daily reports.
Greensboro	Establish radiometeorograph station.
Greenville	Increase staff so as to double the present number of daily reports.
Hatteras	Establish pilot-balloon station.
Hayesville	Establish new off-airway station.
Mt. Mitchell	Establish mountain observatory.
Raleigh	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Wilmington	Increase staff so as to double the present number of daily reports.

North Dakota

Devils Lake	Increase staff so as to double the present number of daily reports.
Garrison	Increase staff so as to double the present number of daily reports.
Pembina	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Williston	Establish pilot-balloon station.

Ohio

Adelphia	Establish new off-airway station.
Cincinnati	Connect Weather Bureau city office with airway teletype.
Cleveland	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
	Connect Weather Bureau city office with airway teletype.
Columbus	Connect Weather Bureau city office with airway teletype.
East Liverpool	Replace part-time untrained observers with commissioned personnel.
Vandalia	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.

Oklahoma

Elk City	Increase staff so as to double the present number of daily reports.
Guymon	Establish new off-airway station.
McAlester	Increase staff so as to double the present number of daily reports.
Waynoka	Replace part-time untrained observers with commissioned personnel.

Oregon

Baker	Replace part-time untrained observers with commissioned personnel.
Bend	Increase staff so as to double the present number of daily reports.
Crown Point	Replace part-time untrained observers with commissioned personnel.
Eugene	Replace part-time untrained observers with commissioned personnel.
Hood River	Increase staff so as to double the present number of daily reports.
Lakeview	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
North Bend	Establish pilot-balloon station.
Roseburg	Replace part-time untrained observers with commissioned personnel.
Siskiyou Summit	Replace part-time untrained observers with commissioned personnel.
Wolf Creek	Replace part-time untrained observers with commissioned personnel.
Medford	Establish radiometeorograph station.

Pennsylvania

Allentown	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Appalachian Mts. (or Md.)	Establish mountain observatory.
Bellefonte	Install Weather Bureau meteorological personnel.
Erie	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Mercer	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Philadelphia	Connect Weather Bureau city office with airway teletype.
Pittsburgh	Establish radiometeorograph station.
Sunbury	Replace part-time untrained observers with commissioned personnel.
Waynesburg	Establish new off-airway station.
Williamsport	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.

Rhode Island

Providence	Replace part-time untrained observers with commissioned personnel.

South Carolina

Charleston	Establish radiometeorograph station.
Columbia	Increase staff so as to double the present number of daily reports.

South Dakota

Lemmon	Increase staff so as to double the present number of daily reports.
Mobridge	Increase staff so as to double the present number of daily reports.

Tennessee

Bristol	Install Weather Bureau meteorological personnel.
Chattanooga	Install Weather Bureau meteorological personnel.
Memphis	Connect Weather Bureau city office with airway teletype.
Nashville	Connect Weather Bureau city office with airway teletype.
Paris	Increase staff so as to double the present number of daily reports.

Texas

Amarillo	Establish radiometeorograph station.
	Install Weather Bureau meteorological personnel.
Austin	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Big Spring	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Brady	Increase staff so as to double the present number of daily reports.
Brownsville	Establish radiometeorograph station.
	Connect Weather Bureau city office with airway teletype.
Corpus Christi	Install Weather Bureau meteorological personnel.
Dallas	Connect Weather Bureau city office with airway teletype.
Del Rio	Increase staff so as to double the present number of daily reports.
Ft. Worth	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
Gainesville	Replace part-time untrained observers with commissioned personnel.
Galveston	Install Weather Bureau meteorological personnel.
Guthrie	Establish new off-airway station.
Houston	Establish radiometeorograph station.
	Connect Weather Bureau city office with airway teletype.
Laredo	Increase staff so as to double the present number of daily reports.
Lubbock	Increase staff so as to double the present number of daily reports.
Lufkin	Increase staff so as to double the present number of daily reports.
Rankin	Establish new off-airway station.
San Antonio	Establish radiometeorograph station.
	Connect Weather Bureau city office with airway teletype.
Sonora	Establish new off-airway station.
Texarkana	Install Weather Bureau meteorological personnel.
Waco	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Wichita Falls	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.

Utah

Blanding	Establish new off-airway station.
Duchesne	Increase staff so as to double the present number of daily reports.
Enterprise	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Green River	Increase staff so as to double the present number of daily reports.
Modena	Increase staff so as to double the present number of daily reports.
Salt Lake City	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.

Vermont

Brattleboro	Establish new off-airway station.
Burlington	Install Weather Bureau meteorological personnel.
White River Junction	Increase staff so as to double the present number of daily reports.

Virginia

Appalachian Mts.	Establish mountain observatory.
Arlington	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
Lynchburg	Install Weather Bureau meteorological personnel.
Norfolk	Provide inspector-instructor to improve reporting from ships at sea.
	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
	Connect Weather Bureau city office with airway teletype.
Richmond	Connect Weather Bureau city office with airway teletype.
Roanoke	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Urbanna	Increase staff so as to double the present number of daily reports.

Washington

Bellingham	Replace part-time untrained observers with commissioned personnel.
Chehalis	Replace part-time untrained observers with commissioned personnel.
Colville	Replace part-time untrained observers with commissioned personnel.
	Increase staff so as to double the present number of daily reports.
Ellensburg	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
North Head	Establish pilot-balloon station.
Olympic Mts.	Establish mountain observatory.
Seattle	Provide inspector-instructor to improve reporting from ships at sea.
	Establish radiometeorograph station.
	Provide meteorologist to instruct district forecasting personnel in air-mass analysis.
Spokane	Connect Weather Bureau city office with airway teletype.

Wenatchee	Increase staff so as to double the present number of daily reports.
Yakima	Increase staff so as to double the present number of daily reports.
Tatoosh Island	Establish pilot-balloon station.

West Virginia

Charleston	Establish pilot-balloon station.
	Install Weather Bureau meteorological personnel.
Fairmont	Establish new off-airway station.
Flat Top	Increase staff so as to double the present number of daily reports.
Parkersburg	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.

Wisconsin

Green Bay	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
La Crosse	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Madison	Replace part-time untrained observers with commissioned personnel.
Milwaukee	Connect Weather Bureau city office with airway teletype.
Montello	Establish new off-airway station.
Park Falls	Increase staff so as to double the present number of daily reports.
Wausau	Increase staff so as to double the present number of daily reports.

Wyoming

Casper	Establish pilot-balloon station.
Cody	Increase staff so as to double the present number of daily reports.
Lander	Increase staff so as to double the present number of daily reports.
	Establish pilot-balloon station.
Newcastle	Increase staff so as to double the present number of daily reports.
Sheridan	Install Weather Bureau meteorological personnel.
	Establish pilot-balloon station.
Yellowstone Park	Increase staff so as to double the present number of daily reports.

EDITORIALS

THIS ISSUE PRESENTS—

Weather Aids: For a long time the editors of this Journal have sought an exact and scientific survey of the needs, present and reasonably prophetic, of the Weather Bureau with respect to safe flight. The fourth article in this issue, by Edgar S. Gorrell, ends the search. Obviously it represents the sum total of the author's personal experience as head of the air carrier group plus that of many others dealing with this problem. The program should have the support of Congress because it is as necessary for the private flier and the national defense as it is for the airline, and because any improvements in weather analysis and reporting benefits agriculture and industry generally.

Uniform Aeronautical Code Again: The reply to the 1938 Report of the Study Committee of the National Association of State Aviation Officials is another leading article. It was prepared by James J. Hayden of Catholic University and is submitted in behalf of Nathan William MacChesney and the Committee on Uniform Aeronautical Code of the National Conference of Commissioners on Uniform State Laws, commonly called the Schnader group. It not only seeks to answer the NASAO report (more frequently called the Logan Report), but also the 1938 annual report of NASAO Legal Counsel George B. Logan. The Hayden article furnishes another preface to the individual studies of the problem by the Civil Aeronautics Authority and the Committee on Aeronautical Law of the American Bar Association.

First "Grandfather" Certificate of the CAA. Under date of February 25, 1939, the Civil Aeronautics Authority issued its first certificate of convenience and necessity under Section 401 (e) (1) of the 1938 Act. Delta Air Corporation, operating between Charleston, S. C., and Fort Worth, Texas, is the possessor of this historical document, set forth in this issue under Federal Department with accompanying opinion and order. The operation involved is largely air mail, and there were no exceptions to the examiner's report nor any objections to the application, as shown by the opinion. The certificate is simple and clear, as it should be, and a vast improvement over the form first submitted to the industry for comment. Also, the problem of non-stop routes not operated during

the "grandfather" period (May 14, 1938, to August 22, 1938) seems to have been eliminated. Certainly no such "grandfather" rights were contemplated by the framers of the 1938 Act. As this issue goes to press, there comes the announcement of "grandfather" certificates to Mid-Continent Airlines, Inc., and Continental Airlines, Inc., lines similar in their certificate situation to Delta.

AIR SAFETY BOARD — FIRST REPORT

On February 18, 1939, the Air Safety Board submitted its first accident investigation report[1] to the Civil Aeronautics Authority, that of United Air Lines off the California coast near Point Reyes early on the morning of November 29, 1938. The report is significant as to substance, form and background.

First, it covers an air carrier operation in all its phases—personnel, fuel, radio, weather, operating practices, and finally the seaworthiness as well as the airworthiness of the aircraft. Secondly, it demonstrates that a most complicated air carrier problem can be both examined and stated with an unusual and refreshing clarity. Lastly, it renews confidence in democratic government to see a legislative arm, sponsored by the Air Line Pilots Association and with a former member on the Board itself, finding that pilot and other personnel error can be and was the proximate probable cause of an aircraft accident.

It took courage and brains to produce the result. It completely debunks the widely-broadcast newspaper stories that sun spots screwed up the radio and thereby caused the accident. It is a splendid contribution to future safety in the air. We are therefore proud to print the full report, with exhibits, in this issue under our Federal Department.

NATIONAL AVIATION FORUM

Aviation's longstanding and greatest need has been to sell its wares to the public. Next in line is the necessity of relieving aviation of its "friends," unwittingly hurtful and selfishly false. The National Aviation Forum appears to be the answer to these unhappy handmaidens of things aeronautical.

Elsewhere you have read the details of this Washington, D. C., February 20-21, 1939, meeting which brought together a sizeable portion of government, business and fraternity. This group heard

1. See 10 JOURNAL OF AIR LAW AND COMMERCE 75 for organization and duties of the Air Safety Board.

the leaders of the art of aeronautics frankly discuss its problems, plans and hopes. In turn the hearers spoke their piece. Thus true, intelligent and helpful friends were made. Thus false "friends" were made to participate in order to save face, and they will be forever bound. The results are certain to be good. However, they must be maintained if we are to have the gains so necessary.

We salute the National Aeronautic Association which sponsored the Forum, the Joint Aviation Council under whose auspices it was held, and those indefatigable and unselfish leaders, Gill Robb Wilson and William R. Enyart. May they continue their excellent work. There is much promise in their announcement of the National Conference on Private Flying, coincident with the Fifth National Intercollegiate Flying Conference scheduled for Washington, D. C., March 20-21, 1939.

STATE

Department Editors ..... {GILL ROBB WILSON / ELWOOD B. COLE}

REVISION OF AERONAUTICS BULLETIN NO. 18

The Civil Aeronautics Authority now has work under way which will result in the revision of Aeronautics Bulletin No. 18, current as of January 1, 1939. A study of the various State Session Laws discloses that comparatively little has been done in the state regulatory field since the bulletin was first published by the Bureau of Air Commerce on January 1, 1936. There are a few exceptions where the Uniform State Regulatory Act has been adopted, either in its original or in modified form. Several states, however, have adopted the Uniform Airports Act and have, thereby, afforded their various political subdivisions a greater and more practical opportunity to enter into the airport field and have thus paved the way for future activity along this line.

There is considerable activity expected during the next few months as many state legislatures are now in session. Word has already been received from several states which reveals a marked trend toward uniformity in both fields. Again, there are a few exceptions, and one instance where serious consideration is being given to a major curtailment of state aeronautical activities. The latter case is a natural reaction to a program which has involved the expenditure of large sums of money over a period of but a few years. The desire of this state is to reduce to a minimum, but yet to retain, those functions necessary for adequate control and coordination and to eliminate those which are not.

A matter of primary concern at the present time involves the "Zoning" of property adjacent to airports. The Uniform Airports Act provides for the acquisition of air rights by grant, purchase, lease or condemnation. All of these methods, except the first, imply the payment of compensation to the owner of the land and no one of them may be strictly classified as zoning. The entire subject is one which is demanding serious attention and study on the part of many and protection of the flying public by means of providing safe approaches to landing areas offers state and local problems which have not yet been solved satisfactorily. The importance of zoning for airports will increase rapidly as traffic problems increase and particularly as the use of instrument landings develops.

ELWOOD B. COLE.

FEDERAL

Department Editors ..... STUART G. TIPTON, FRED M. GLASS

AIR SAFETY BOARD ACCIDENT REPORT*

An accident involving aircraft of United States Registry, NC-16066, while operating as Trip 6 of November 28, 1938, of United Air Lines, having occurred off Point Reyes, California, at approximately 5:30 o'clock A.M., on the twenty-ninth day of November, 1938; the Air Safety Board having investigated such accident, and having considered the evidence adduced therefrom, reports the following facts, conditions, and circumstances relating to the said accident, its findings, and its conclusions as to the probable cause thereof:

FACTS, CONDITIONS, AND CIRCUMSTANCES

United Air Lines Corporation, an air carrier, as authorized under currently effective Air Carrier Operating Certificate issued by the Civil Aeronautics Authority, dispatched aircraft of United States Registry NC-16066 from Seattle, Washington to Portland, Oregon, at 8:30 P.M., November 28, 1938, operating as Trip 6 of United Air Lines between Seattle, Washington and San Diego, California, carrying passengers, express and mail.

AIRCRAFT:

Aircraft NC-16066 was manufactured by the Douglas Aircraft Corporation, Model DC 3-A-SB-3-G-14 Passenger, ATC No. 619, 2572 and was placed in service by United Air Lines January 26, 1937. The aircraft was powered by two Pratt & Whitney engines, Type B-3G, Nos. 126 and 135, ATC No. 158, and Hamilton Standard Constant speed propellers. The plane was equipped with all instruments and radio equipment required by the company's Air Carrier Operating Certificate. All available records indicate that the aircraft, engines, propellers, radio, instruments and accessories involved in the flight were maintained, inspected and certificated in accordance with the company's Air Carrier Operating Certificate and existent Civil Air Regulations.

AIRMAN:

The crew consisted of Captain Charles B. Stead, First Officer Lloyd E. Jones and Stewardess Frona B. Clay. Captain Stead, at the time of the take-off in Seattle, had accumulated a total of 8649:46 hours flying time, 442:28 hours of which were in DC-3 aircraft, while First Officer Jones had accumulated a total of 3284:16 flying time, 291:56 hours of which were in DC-3 aircraft. Both pilots were possessed of required ratings and Certificates of Competency for the flight and equipment involved. Stewardess

* Report to the Civil Aeronautics Authority as a result of an accident involving aircraft NC-16066 of United Air Lines, off Point Reyes, California, on November 29, 1938.

Clay was a registered nurse, a graduate of Emmanuel Hospital, Portland, Oregon, and had been in the employ of United Airlines as a stewardess since January 8, 1936.

WEATHER:

Weather forecasts made available to all concerned by United Air Lines meteorologist prior to the clearance of the flight from Seattle, were as quoted.

"Winds at Normal Cruising Levels:

Seattle-Portland: 200° 25 miles per hour.
Portland-Medford: 200° 45 miles per hour
Medford-Redding: 200° 75 miles per hour.
Redding-Sacramento: 190° 65 miles per hour.
Sacramento-Oakland: 280° 30 miles per hour.

"Cloud Types and Layers:

High overcast.
Seattle-Oakland; Broken clouds to overcast 6000-4000′ except low across Siskiyou Mountains. Tops above flying altitudes.

"Precipitation:

Snow at flying altitudes. Rain at terminals.

"Thunderstorms:

Orographic—frontal, Medford to Williams.

"Ice:

Portland-Oakland at flying altitudes, rime, heavy at times.

"Remarks:

Air slightly rough to very rough. Heavy static in clouds across Siskiyou Mountains.

"Expected Terminal Conditions on Arrival:

Seattle—Ceiling 7000′; trend—lowering; visibility 2½ miles; trend—steady; sky—broken clouds; weather and obstruction to visibility, smoky. Miscellaneous—intermittent light rain.

Portland—Ceiling 7000′; trend—lowering; visibility 6 miles; trend—steady; sky—overcast; weather and obstruction to visibility, light smoke. Miscellaneous—intermittent light rain.

Medford—Ceiling 5000′; trend—lowering; visibility 10 miles; trend—lowering; sky—overcast; weather and obstruction to vision, lower scud. Miscellaneous—rain, squally.

Sacramento—Ceiling 6000′; trend—lowering; visibility 2 miles; trend—steady; sky—overcast; weather and obstruction to visibility, low scud. Miscellaneous—squally.

Oakland—Ceiling 5000′; trend—lowering; visibility 8 miles; trend—lowering; sky—overcast; weather and obstruction to visibility, low scud. Miscellaneous—squally.

"Regional Forecast—U. S. Weather Bureau at Seattle, 7:30 P.M., November 28 to 3:30 A.M., November 29, 1938:

"Oakland to Medford, Oakland to Salt Lake City, Oakland to Burbank, and *Bakersfield to Daggett.* Occluded front will reach California Coast vicinity came[1] Mendocino about midnight and advance to Brookings-Williams-Bay Region line by end of period stop Front will be preceded by overcast with rain, with ceilings lowering one to two thousand along Coast Bay Region northward, and two to four thousand over interior of California Modesto northward, except one to two thousand extreme northern Sacramento Valley.

1. Board note: This word in original.

Scattered clouds along western slope of Sierra Nevada Mountains will increase to overcast at one to two thousand with occasional rain latter half of period and overcast with rain will continue over Siskiyou Mountains with ceilings very low to zero stop. Clear skies or high scattered clouds will prevail elsewhere in district except for lower scattered to broken clouds latter half of period south of bay region to Tehachapi Mountains and over northwestern Nevada.

Terminal Forecasts:

Oakland and San Francisco: Broken to overcast at 4 to 6 thousand but with ceilings lowering with rain after midnight to 1 thousand to 25 hundred near close of period with approach of occluded front. Visibility 10 or more except 3 to 6 in rain.

Sacramento: Overcast with occasional light rain. Ceiling 5 to 7 thousand lowering to 2 to 4 thousand latter half of period.

Redding: Overcast with occasional light rain. Ceiling three to five thousand lowering after midnight to 1 to 2 thousand. Visibility 10 or more."

The following quoted flight plan for Trip 6-28 from Seattle to Oakland, based on the above-quoted forecast and other available weather information, was prepared in Seattle, in accordance with company procedure, prior to departure of the trip, by Captain Charles B. Stead, the First Officer and the Seattle dispatcher on duty:

"*Weather Analysis:* High broken clouds with lower broken Seattle Siskiyou. Overcast south good but light to moderate rain Medford south.

Fronts:

Location—Off coast.
Type—Warm.
Movement—Slow.
Intensity—Strong.

"*Static:*

Location—High clouds.
Intensity—Light to moderate.

"*Thunderstorms:*

None.

"*Fog:*

None.

"*Ice:*

Location—Medford south.
Type—Rime.
Intensity—Light.

"*Flight Procedure:* Expect trip to be flown as follows:

"*From Seattle to Portland:*

Procedure: Contact.
Altitude: 6000'.
Estimated Wind Direction and Velocity: S-SE moderate.
Flight Time: 1 hour.
Air Condition: Smooth.

"*From Portland to Medford:*

Procedure: Instruments.
Altitude: 8000'.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 1 hour 35 minutes.
Air Condition: Smooth.

"From Medford to Red Bluff:

Procedure: Instruments.
Altitude: 5000'.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 1 hour 10 minutes.
Air Condition: Smooth.

"From Red Bluff to Sacramento:

Procedure: Instruments.
Altitude: Descending.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 1 hour.
Air Condition: Smooth.

"From Sacramento to Oakland:

Procedure: Contact.
Altitude: 4000'.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 35 minutes.
Air Condition: Smooth.

"Total Fuel on Board:

620 gallons.

"Estimated Time to Destination:

6 Hours.

"A. T. C. Information:

Williams, 6500'.

"Alternate Fields:

Oakland for Sacramento.
Portland for Medford.
Sacramento for Oakland.

"Alternate Procedure:

From Medford to Oakland may delay pending weather."

The trip reached Portland, Oregon, at 9:30 P.M., after a sixty minute flight from Seattle. After refueling with 93 gallons of gasoline, making a total of 620 gallons of gasoline and 168 quarts of oil aboard, the trip departed at 9:46 P.M., dispatched to Medford, Oregon, with the same crew personnel, and the following passengers aboard:

Mr. Ivan B. Heflebower, residence given as 1298 Sacramento St., San Francisco, Calif.;

Mr. Phillip Hart, residence given as 354 Southwest Edgecliff Road, Portland, Oregon:

Mr. S. L. Shonts, residence given as 685 Palmhaven, San Jose, Calif.; and

Mr. Isadore R. Edelstein, no permanent address given. The trip from Seattle to Medford was without incident, except that headwinds of greater velocity than had been anticipated were encountered between Portland and Medford. The trip arrived at Medford at 11:34 P.M.

Prior to the arrival of the trip in Medford, the Oakland company dispatcher, charged, in accordance with company procedure, with the responsibility of dispatching the trip south of Medford, contacted the forecaster on duty at the Oakland Municipal Airport Office of the U. S. Weather Bureau, and, after a conversation concerning the weather, concurred with the forecaster in the opinion that the trip should not be cleared from Medford.

At 11:34 P.M. the following radiogram was dispatched to the company's Medford, Oregon, office by the Oakland dispatcher:

With frontal system off coast and strong south wind and heavy rain reported at Farralone Islands and Oakland conditions decreasing suggest holding Trip 6-28 for weather improvement at Oakland probable daylight."

After receipt, however, of the following quoted sequence weather reports at 11:41 P.M., and a forecast from the Oakland Municipal Airport Office of the U. S. Weather Bureau that ceilings at Sacramento would remain above 3500 feet, the Oakland dispatcher, Medford station manager and Captain Stead agreed in a three-way telephone conversation that the trip be cleared and dispatched to Sacramento:

"Medford — Ceiling 7000'; high overcast with lower broken clouds; visibility 30 miles; temperature 53°, dew point 35; wind SE-15, barometer 29.73, few lower clouds.

"Siskiyou — Ceiling 2500'; broken overcast with lower scattered clouds at 900'; visibility 25 miles; temperature 35°, dew point 31; wind S-SW-26 plus, conditions changeable.

"Montague — Ceiling estimated 3500'; high broken with lower broken clouds; visibility 20 miles; temperature 44°, dew point 34; wind S-19; barometer 29.82, occasional very light sprinkle.

"Mt. Shasta—Ceiling estimated 600'; overcast; visibility 5 miles; rain and fog; temperature 35°, dew point; wind SE-18 estimated.

"Redding. — Ceiling 3000'; overcast; visibility 15 miles; rain; temperature 46°, dew point 41; wind NW-10; barometer 29.89.

"Williams — Ceiling 6000'; overcast; visibility 8 miles; rain; temperature 46°, dew point 45; wind W-5; barometer 29.87.

"Sacramento—Ceiling 6500'; overcast, 8 miles visibility; temperature 47°, dew point 43, wind NW-4; barometer 29.87, occasional breaks.

"Oakland — Ceiling 1800'; overcast, lowering broken clouds, visibility 8 miles; rain; temperature 55°, dew point 44; wind SE-25; barometer 29.86, overcast 4000'."

The trip departed Medford at 12:03 A.M., November 29th, after having delayed 24 minutes in excess of the scheduled five-minute stop, with no change in either crew or passenger personnel, and with no additional gasoline or oil. Although no check of the gasoline and oil aboard was made at Medford, it is estimated that, at the time of take-off, the fuel aboard the aircraft consisted of approximately 450 gallons of gasoline and 150 quarts of oil. No variation was made in the original flight plan on which clearance was based.

According to sworn testimony of Captain Stead, and radio contacts during the period of the flight as recorded on the radio logs of Medford, Oakland, Sacramento, Red Bluff and Portland radio stations, the flight south of Medford progressed in the following manner:

The take-off was made to the south and the aircraft assumed level flight at cruising altitude of 12,000 feet while passing over the City of Medford at 12:24 A.M. after one 180° turn to the north and a second to the south had been made during the climb, in accordance with company procedure.

The flight proceeded without incident along the south leg of the Medford radio range and the north leg of the Fort Jones radio range to a point south of the Fort Jones radio range station, where, as the result of an icing

condition causing severe static, flight level was changed to 14,000 feet in a slow climbing 360° turn.

In answer to requests for information as to passage of the trip over the regular Mt. Shasta radio range fix, First Officer Jones radioed at 1:34 A. M.:

"West of Shasta City estimated 1:15 A.M. 14,000 feet. We are now going on top at 15,000 feet. Fly on south leg of Fort Jones range on course, compass course 190°, light rime ice, estimate Red Bluff 1:50 A.M."

The aircraft's radio was tuned to the Fort Jones radio range station and flight proceeded along the south leg of this range until 1:55 A.M., when an attempt was made to tune in the Williams station. Failing to reach the station, Captain Stead requested information as to its operating condition and was informed by Oakland at 2:08 A.M. that the monitoring of such station by both Oakland and Blue Canyon indicated it was operating in a satisfactory manner with no interference. The aircraft, however, failed to receive the Williams signals throughout the trip and, though signals were received from the Sacramento and Fresno radio range stations, such reception was inadequate for navigational purposes, due to interference from other radio range stations.

No radio contacts were made between the aircraft and ground stations after 2:09 A.M., until 3:03 A. M., when Captain Stead reported an estimated position between Williams and Potrero flying a compass heading of 150°, and that the Oakland radio range signals were coming in "strong" and that he was "getting an 'A' on Fresno." The trip was subsequently cleared to Oakland at 3:20 A.M. after Captain Stead reported the aircraft as definitely on the northeast leg of the Oakland radio range, flying at 6000 feet in a westerly direction at 3:17 A.M.

Oxygen, an item of standard equipment aboard this aircraft, was used intermittently at high altitudes, during the flight to this point, by both Captain Stead and First Officer Jones.

A light, believed by Captain Stead to have been an airway beacon light, was sighted shortly after intersecting a leg of the Oakland radio range, and between 3:49 A.M. and 3:54 A.M., although ostensibly flying a 199° radio range course, it was found necessary to fly a compass heading of approximately 225° to stay on the beam. Flight was continued in this manner until 4:08 A.M., when, with gasoline estimated at 60 gallons, Captain Stead expressed doubt as to his exact position, and, after a 180° turn, began descent to an altitude of 300 feet, where the landing lights showed the aircraft to be over water. Subsequent to a request from Oakland at 4:15 A.M. that a bearing be taken, the position of the aircraft was reported at 4:16 A.M. as being west of Oakland on the west leg of the Oakland radio range. At 4:39 A.M. Captain Stead reported a bearing on Oakland of 75° and on Fresno of 85°.

After ascending to 1800 feet, the aircraft continued along this leg in an easterly direction, with motors throttled for the purpose of fuel conservation, until the Point Reyes, California lighthouse was sighted at 5:03 A.M. In approaching the shore, the aircraft passed over a lumber schooner, "The Lumberton," and circled the lighthouse in two wide circles, dropping a flare upon each occasion, close to the shore off Point Reyes. The gasoline supply was completely exhausted shortly after the aircraft passed the Point Reyes lighthouse flying in a southeasterly direction on the second circle, and

the aircraft was landed in the water, wheels up, about three-quartrs of a mile off shore, at approximately 5:25 A.M. At this time the aircraft had flown a total of two hours and eight minutes since intersecting a leg of the Oakland radio range, believed by Captain Stead to have been the northeast leg. Passengers and crew immediately climbed to the top of the aircraft, through the emergency hatch in the pilot's cockpit. The aircraft rode the swells easily until the surf carried it shoreward, where it was severely battered and subsequently destroyed by the waves and rocks. The deaths of S. L. Shonts and First Officer Lloyd Jones, and the disappearances of Phillip Hart, Ivan B. Heflebower, and Stewardess Frona B. Clay occurred. Passenger Isadore R. Edelstein and Captain Charles B. Stead survived. Mail, radio equipment and certain flight records were recovered, while other records, including the flight log and barograph, were lost with the aircraft.

Evidence was adduced establishing the flight of an aircraft, thought to have been multi-motored, over and in the vicinity of Crescent City, California, which is located on the coast of the Pacific Ocean in a southwesterly direction and approximately 80 miles distant from Medford, Oregon, between 12:45 A.M. and 1:15 A.M. on November 29, 1938. The testimony indicated that the aircraft approached Crescent City at a low altitude from a northeasterly direction, and, after passing over the city, departed in a southwesterly direction over the Pacific Ocean. The testimony indicates that definite statements, concerning the presence of the aircraft, were made by witnesses to other persons prior to the time NC-16066 was reported to be in distress. Although inquiry failed to reveal the flight of any aircraft, other than United Air Lines' Trip 6, in the northwestern part of the State of California during the times mentioned, no positive identification of the aircraft was made. In any event this evidence involves an incident that occurred prior to the hour of 3:17 A.M., when Captain Stead reported his position on the Northeast leg of the Oakland radio range.

Emergency activities of the United Air Lines Oakland dispatching office during the flight of Trip 6-28 consisted of: repeated unsuccessful attempts, utilizing both company and Sacramento Civil Aeronautics Authority radio facilities, to contact the aircraft between the hours of 2:09 A.M. and 3:03 A.M., suspension of all radio traffic north, south, and east of Oakland at 2:58 A.M.; notification by telephone to the Superintendent of Flight Operations of the Western Division of United Air Lines of the status of the flight, at approximately 3:00 A.M. (during which conversation Captain Stead reported the position of the aircraft); a further telephone notification to this company official at approximately 4:05 A.M., that the aircraft was overdue in Oakland; solicitation of the assistance of the United States Navy Radio Station NPG and of the United States Coast Guard at San Francisco, between 4:16 and 4:30 A.M., in notifying sea traffic of the presence of the aircraft over the ocean, west of Oakland; and, according to the statement of the Oakland dispatcher on duty, an unsuccessful attempt, after 4:30 A.M., to contact the Alameda, California base of Pan-American Airways for the purpose of enlisting their services in utilizing the direction finder of the latter company in ascertaining the exact position of the aircraft. It may be stated parenthetically that United Air Lines operating procedures in effect on the Western division at the time of the accident were inadequate to meet the requirements of such an emergency.

A sketch of the area involved in this report is attached hereto, marked "Exhibit A," and is, by reference, made a part hereof.

RADIO CONTACTS:

A transcription of the log entries of the Seattle, Portland, Medford and Oakland ground radio stations, pertaining to United Air Lines Trip 6-28, is attached hereto, marked "Exhibit B," and is, by reference, made a part hereof.

FINDINGS

1. United Air Lines Trip 6 of November 28, 1938, between Seattle, Washington and San Diego, California, with Portland and Medford, Oregon, Sacramento, Oakland, San Francisco, Fresno, Bakersfield, and Los Angeles, California, as intermediate points, was authorized by the company's currently effective Air Carrier Operating Certificate, issued by the Civil Aeronautics Authority.

2. The aircraft, aircraft engines, propellers, radio, instruments, and accessories involved in the flight were maintained, inspected and certificated in accordance with the company's currently effective Air Carrier Operating Certificate and existent Civil Air Regulations; and functioned normally during the entire flight.

3. Both Captain Stead and First Officer Jones were possessed of required ratings and certificates of competency for the flight and equipment involved, and were authorized, in the currently effective Air Carrier Operating Certificate, for service over the route of United Air Lines Trip 6 of November 28, 1938.

4. United Air Lines Trip 6 of November 28, 1938, was properly dispatched from Seattle, Washington to Portland, Oregon and from Portland, Oregon to Medford, Oregon.

5. Prior to clearing the trip from Medford, Oregon, company personnel involved failed to give proper consideration to the fuel supply on board or to the amount of fuel that might be required for the trip, in view of adverse weather and wind conditions forecast over the course to be flown.

6. The pilot failed to work an orientation problem and to definitely establish the position of the aircraft, either at the time of intersecting a leg of the Oakland radio range at 3:17 A.M., or during such additional period of time as to be able to either remain within range of or to return to a safe landing area.

7. At the time of intersecting a leg of the Oakland radio range at 3:17 A.M. the trip was an hour and three minutes overdue in Sacramento, according to the flight plan. The estimated position of the aircraft at this time was a maximum of thirty-five miles from Oakland, and there were approximately 150 gallons of gasoline aboard.

8. Subsequent to intersecting a leg of the Oakland radio range, the flight was continued in a westerly direction, flying on compass headings inconsistent with that required to follow the northeast leg of the Oakland radio range, for a period of time longer than could reasonably have been required to reach Oakland from the pilot's previously estimated position.

9. No effort was made by the pilot to conserve fuel, within a reasonable period of time after the trip failed to arrive in Oakland subsequent to intersecting a leg of the Oakland radio range at 3:17 A.M.

10. Trip 6-28 was cleared from Medford by an Oakland dispatcher who went off duty at 12:00 o'clock midnight, being relieved by another dispatcher who actually handled the flight from take-off in Medford until the accident occurred. The Oakland dispatcher on duty during the course of the flight failed to advise the pilot, either that he verify his position by working an orientation problem, or that he conserve fuel by reducing power, after the passage of a greater period of time than was required to reach Oakland from the pilot's previously estimated position on the northeast leg of the Oakland radio range.

11. The Medford, Fort Jones, Williams, Sacramento, Oakland, Red Bluff and Fresno radio ranges functioned normally during the period of the fligth of United Air Lines' Trip 6 of November 28.

12. The trip forecast, made by the company meteorologist at Seattle, Washington, prior to departure of the trip, indicated that static conditions would be encountered south of Medford. Radio reception was actually impaired during the course of the flight prior to intersecting a leg of the Oakland radio range.

13. United Air Lines did not have in effect on its western division established procedures adequate to meet the emergencies encountered on this flight. The dispatcher on duty not only failed to promptly utilize such emergency facilities as were available, but also failed to demonstrate a reasonable degree of initiative and judgment in attempting to cope with the obvious emergencies.

Probable Cause

Failure of the pilot to definitely establish the position of the aircraft through standard orientation procedures within a reasonable time after intersecting a leg of the Oakland radio range at 3:17 A.M., and of company flight dispatchers, charged with the responsibilities of directing the operation of the trip, to properly safeguard the flight, resulting in forced landing of the aircraft at sea due to exhausted fuel supply.

Contributing Factors

1. Failure of the pilot and Oakland dispatcher involved in clearing the trip from Medford, Oregon, to give proper consideration to possible fuel requirements of the trip, in view of adverse weather conditions as forecast by both company and U. S. Weather Bureau meteorologists.

2. Failure of the pilot and dispatcher, after the aircraft was reported on a leg of the Oakland radio range, thought by the pilot to be the northeast leg, to recognize the inconsistency of the compass headings of the aircraft with the heading required to fly the on-course signal of the northeast leg.

3. Continuation of the flight in a westerly direction for an excessive period of time beyond that which would have been required to reach Oakland from the pilot's estimated position on the northeast leg of the Oakland radio range.

4. Failure of the pilot to conserve fuel by reducing power, when the trip did not arrive at Oakland within a reasonable period of time after reaching the estimated position on the northeast leg of the Oakland radio range.

5. Failure of the Oakland dispatcher, after the passage of a period of time excessive of that required to reach Oakland from the pilot's previously estimated position on the northeast leg of the Oakland radio range, to advise the pilot to establish his position by working standard orientation procedures, and to conserve fuel by reducing power.

Failure of the Oakland dispatcher to notify the superintendent of flight operations of the western division of United Air Lines, of the status of the trip, within a reasonable period of time after radio communications with the aircraft failed at 2:09 A.M., and also within a reasonable period of time after the aircraft was reported as being on the northeast leg of the Oakland radio range. Also his failure to promptly utilize such emergency facilities as were available, and to demonstrate a reasonable degree of initiative and judgment in the presence of an obvious emergency.

7. Inadequacy of procedures established by United Air Lines on its western division for aiding aircraft under such conditions of emergency.

RECOMMENDATIONS

It is recommended that the airline competency ratings of the pilot and both dispatchers involved in this accident be revoked.

It is further recommended that the Civil Aeronautics Authority:

"A"—Require each scheduled air carrier to set forth specific emergency procedures, to be approved by the Civil Aeronautics Authority. Such procedures should include:

1. A clear definition of an emergency condition.
2. A clear and specific outline of the duties and responsibilities of all company personnel involved.

In setting up such procedures, full consideration should be given to all facilities available, such as Lighthouse Service, radio beacons, U. S. Coast Guard Service, ground direction finders, and any other aids which might be useful.

"B"—Revise the Civil Air Regulations so as to require the air carrier dispatcher responsible for the clearance and conduct of flights, to designate the minimum fuel requirement for each flight prior to departure of the flight from each station within his dispatching authority.

"C"—Revise the Civil Air Regulations so as to (1) materially increase the minimum requirements for Air Carrier Dispatcher Certificates of Competency, and (2) specifically therein define the duties and responsibilities of air carrier dispatchers, and (3) prohibit the dispatching or ground control of any scheduled air carrier aircraft in flight by any person not possessed of a currently effective Air Carrier Dispatcher Certificate of Competency.

"D"—Subsequent to the revision of the Civil Air Regulations as recommended in paragraph "C" herein, thoroughly test the ability, to meet the revised requirements of such regulations, of (1) applicants for Air Carrier Dispatcher Certificates of Competency, and (2) persons already holding such effective Certificates of Competency.

"E"—*Flight Plan*

Prepare a standardized flight plan form and require all domestic scheduled air carriers to adopt such form. It is recommended that such flight plan include the following data:

1. Weather expected over the route to be flown.

2. The point to which the flight is cleared, designated alternates and intermediate stops.
3. Nature of flight (Contact or Instrument).
4. Proposed flight altitudes.
5. Temperatures expected at flight levels.
6. Wind direction and velocity.
7. Estimated ground speed.
8. Estimated time over fixes.
9. Estimated flight time.
10. Alternate plan in case of emergency.
11. Horse power to be used.
12. Estimated fuel consumption.
13. Estimated fuel required for trip.
14. Estimated fuel reserve.
15. Such other information as might be considered necessary or useful.

It is further recommended that the Civil Air Regulations require the flight plan of each trip to be transmitted to the next control point on the route to be flown.

"F"—Require all plane-to-ground position reports of scheduled air carriers to include the following information:

1. Position (estimated or definite fix).
2. Altitude.
3. Temperature of outside air.
4. Compass heading.
5. Wind direction and velocity.
6. Estimated time over next fix.
7. Any change in power out-put.
8. Weather conditions since last report.
9. Static conditions.
10. State of air (turbulence).
11. Such other information as might be considered necessary or useful.

It is recommended that any change in altitude, compass course, airspeed, or horse power output be reported to the ground at the time the variation or alteration occurs, or as soon thereafter as possible.

It is further recommended that all information transmitted in such plane-to-ground contacts be logged at the control point to which the flight plan has been transmitted, and that the flight control personnel in charge compare such information with comparable contents of such flight plan for the purpose of maintaining accurate and constant record of the operation and progress of the aircraft.

"G"—Navigation Log

Prepare a standardized navigational log and require all domestic scheduled air carriers to adopt such log. It is further recommended that such navigational log include the following data:

1. Compass course.
2. Track.
3. Weather conditions, including outside temperature, precipitation, air conditions (turbulence), static, ice and other pertinent data.

4. Time over fixes.
5. Air speed.
6. Ground speed between fixes.
7. DF bearings and fixes obtained by bearings.
8. Computed wind direction and force.
9. Estimated time over next fix.
10. Fuel distribution in tanks at take-off.
11. Time of shifting from one fuel tank to another, and distribution of fuel at such time.
12. Fuel consumption and power output.
13. Profile of course.
14. Such other information as might be considered necessary or useful.

"H"—Require a standard scheduled air carrier pilot and aircraft dispatcher training program to insure the maintenance of a uniform standard of proficiency. It is recommended that the training program require:

1. A thorough knowledge of navigation by dead-reckoning.
2. A thorough understanding of the use of all radio navigational aids, including radio and direction-finding equipment, in the aircraft and on the ground.
3. A thorough knowledge of basic meteorology as applied to surface and upper air and its effect on air carrier operations.
4. A thorough knowledge of the use of engine, flight and navigational instruments and the computers used with each.
5. Familiarity with the operation peculiarities and errors of all navigational aids and instruments.
6. Demonstration of ability to accurately and instantly identify by identification signal all radio range stations within the flight division and/or control area involved.
7. Such other requirements as might be considered necessary.

"I"—Expedite the installation of adequate automatic ground radio direction-finding equipment, particularly along the eastern and western coasts of the United States.

"J"—Encourage the adoption of 360° automatic aircraft direction-finders to the end that the present aural-null direction-finders may be replaced with more accurate units requiring less of the pilot's time for operation.

"K"—Standardize a nomenclature regarding courses, bearings, drifts, etc., so that the danger of misunderstanding on the part of pilots, dispatchers and all concerned during radio contacts be minimized.

"L"—Require that scheduled air carrier pilots and dispatchers be familiar with the most efficient engine settings for maintaining flight at the least possible fuel consumption on all equipment with which the particular personnel is concerned in the performance of regular duties; and that appropriate power charts be made part of pilot's flight kits, and be readily available in all dispatch offices.

"M"—Require that all scheduled air carriers thoroughly detail, to the satisfaction of the Civil Aeronautics Authority, the specific duties and responsibilities of each member of flight crews.

"N"—Request the Secretary of Agriculture to direct the Director of the United States Weather Bureau to furnish scheduled air carriers with an adequate number of weather reports from ships on the Pacific Ocean, the

Atlantic Ocean, the Caribbean Sea, and the Gulf of Mexico; and make immediate efforts to establish more adequate weather reporting facilities along the Pacific Coast of the United States and Alaska. It is recommended in this latter regard that such facilities include the employment of radio meteorographs in the vicinity of Los Angeles, California, Medford, Oregon, Seattle, Washington, and Juneau, Alaska.

"O"—Request the Secretary of Agriculture to direct the Director of the United States Weather Bureau to include in the airways' route forecasts the probable wind directions expressed in degrees and velocities in miles per hour to be expected at all flight levels during the forecast period. When no upper air data are available, the forecast should state that these elements are estimated. Such forecasts should be so expressed and punctuated as to be clearly understood by all concerned.

"P"—Request the Secretary of Agriculture to direct the Director of the United States Weather Bureau to publish and furnish to scheduled air carriers and other interested parties, airways maps in vertical cross section, showing conditions expected over airways included in the forecast.

FOR THE AIR SAFETY BOARD,

W. S. McDUFFEE,
Executive Officer.

Exhibit B

7:46 P.M. Mechanic Green to Seattle: Test for trip 6-28 on frequencies (3147.5 kilocycles) (5) and (5122.5 kilocycles) (6) stop time 59.0. Seattle to Mechanic Green: OK Call KKCA. Mechanic Green to Seattle: OK. (Seattle Log)

8:25 P.M. Jobson trip 6 to Seattle: Plane 66 testing on frequencies (3147.5 kilocycles) (5) (5122.5 kilocycles) (6). Seattle to Jobson trip 6: OK the correct time is 8:25 P.M. The Seattle barometer is 29.83. United proceeds only with safety. (Seattle Log)

8:36 P.M. Jobson trip 6 to Seattle: Off the Seattle field at 8:36 OK to clear Northwest Airways (to KKCA) and changing to night frequency. Seattle to Jobson trip 6: OK. Jobson trip 6 to Seattle: On night frequency. Seattle to Jobson trip 6: OK on night frequency. (Seattle Log)

8:31 P.M. Seattle to Portland and stations South: Trip 6-28 Stead Jobson Clay plane 66 estimated departure on schedule. Cleared to Portland contact 6,000; instruments Medford 8,000; Red Bluff 12,000; Sacramento descending; Oakland contact 4,000; crossing Williams 6,500; time six hours. Alternate fields Portland for Medford; Oakland for Sacramento; Sacramento for Oakland. Alternate plan hold Medford for weather improvement. 620 gallons of gas. Stop time 59.0. (8.32 P.M.) (Portland, Medford, Oakland Logs)

8:41 P.M. Seattle to Portland and stations South: Trip 6-28 departed Seattle 8:30 P.M. off the Seattle field 8:36 P.M. 266 pounds of mail, 16 pounds express, passengers—1 Portland no cab; 2 San Francisco cab 2; total 3. Pickups—1 Portland Los Angeles. Releasing 2 Portland San Francisco, 2 Portland San Diego, 1 Portland Salt Lake, 1 Portland Chicago, 1 Portland Denver trip 16-29, 1 Portland New York. 266 pounds South, 300 pounds forward, 123 pounds rear. 1 San Francisco bag in Number 4 pit. (8:42 P.M.) Forwarded Sacramento. (Portland Log)

8:50 P.M. Jobson trip 6: Over Tacoma 5,500 climbing to 6,000 at 8:48 P.M. Scattered to lower broken, above unlimited. Temperature 49. Estimate Castle Rock 9:13 P.M. Portland to Jobson trip 6: OK and Portland barometer 29.86. (Seattle also ack.) Stead trip 6 to Portland: OK. (Seattle and Portland Logs)

9:20 P.M. Trip 6 over Castle Rock 9:14 P.M. 6,000. Overcast above, estimated 9,000 unlimited, temperature 45, occasionally slightly rough, wind estimated 205.19. Estimate over the Portland field 9:32 P.M. Portland to trip 6: Portland barometer 29.86 wind East Southeast about 5. Jobson Trip 6 to Portland: OK. (Portland Log)

9:28 P.M. Trip 6 over Vancouver Lake and changing frequency. Portland to trip 6: OK to day frequency. Portland wind now South about 6. Jobson trip 6 to Portland: OK. (Portland Log)

9:30 P.M. (Edwards on remote.) Portland to trip 6: Portland wind Southeast about 10. Field is clear.
Jobson trip 6 to Portland: OK. (Portland Log)

9:49 P.M. Trip 6 called Portland for field clearance.
Portland to trip 6: OK to clear.
Jones trip 6 to Portland: OK. (Portland Log)

9:55 P.M. Jones trip 6 to Portland: Off the Portland field 9:54 P.M. changing frequency.
Portland to Jones trip 6: OK on night frequency. (Portland Log)

10:01 P.M. Portland to stations North and South: Trip 6-28 arrived Portland 9:30 P.M. First Officer L. Jones out 9:46 P.M. Cleared to Medford. 620 gallons of gas, 496 pounds of cargo South of Oakland, 286 pounds of mail, 19 pounds of express for Oakland, San Francisco and Los Angeles. 80 pounds of Company for Medford. Passengers—3 San Francisco cab 3, 1 Los Angeles no cab. Total 4. Pickups 1 Sacramento Los Angeles. Releasing 2 San Francisco Los Angeles, 2 Seattle San Diego. Total 4. (Portland Log)

10:50 P.M. Trip 6: Over Eugene at 10:43 P.M. 8,000, temperature 38, wind estimated 190-35, overcast 8,000, visibility variable 5 to 10 miles, occasionally slightly rough, occasional light rain, estimate over Medford 11:33 P.M. Medford to Jones trip 6: OK. The Medford barometer 29.74. (Portand Log)

11:02 P.M. Oakland to Medford: Trip 6-28 is cleared to Sacramento, cruise 12,000 to Red Bluff, crossing Williams 6,500 descending to Sacramento, no traffic reported.
Medford to Oakland: OK. (Medford and Oakland Logs)

11:22 P.M. Medford to Oakland: Advise recommendation for clearing trip 6-28 per flight plan to Oakland.
Oakland to Medford: OK. (Medford and Oakland Logs)

11:29 P.M. Medford to Stead trip 6: It's broken over the field 15 miles visibility, wind is dying down South Southeast 15 to 20, and it is very well broken. (Medford Log)

11:30 P.M. Stead trip 6 to Medford: OK. Over Table Rock and can see the field and am changing frequency.
Medford to Stead trip 6: OK to change to day frequency.
Trip 6: OK on night and day frequency.
Medford to trip 6: OK. Field is clear to land.
Stead trip 6 to Medford: OK. (Medford Log)

11:32 P.M. Medford to Oakland: Any answer on clearance? (Medford Log)

11:34 P.M. Oakland to Medford: With frontal system off coast and strong south wind and heavy rain reported at Farralon Islands and Oakland conditions decreasing suggest holding trip 6-28 for weather improvement at Oakland.
Probably daylight. Oakland Van Sciever. (Medford and Portland Logs)

11:35 P.M. Trip 6-28 arrived Medford. (Portland Log)

11:35 P.M. Trip 6-28 arrived Medford. (Medford Log)

11:36 P.M. Trip 6-28 still in Medford, no entries.

11:37 P.M. Trip 6-28 still in Medford, no entries.

11:38 P.M. Trip 6-28 still in Medford, no entries.

11:39 P.M. Trip 6-28 still in Medford, no entries.

11:40 P.M. Trip 6-28 still in Medford, no entries.

11:41 P.M. Oakland to Medford: With frontal system off coast, and strong South.

11:41 P.M. Abstract from Medford Log: (Clearance secured via telephone).

11:42 P.M. Wind and heavy rain reported at Farralon Islands, and Oakland
11:43 P.M. conditions suggest holding Trip 6-28 for weather improvement, probably morning, signed Oakland VanSciever. (Portland Log)

11:44 P.M. Trip 6-28 still in Medford, no entries.

11:45 P.M. Trip 6-28 still in Medford, no entries.

11:46 P.M. Trip 6-28 still in Medford, no entries.

11:47 P.M. Trip 6-28 still in Medford, no entries.

11:48 P.M. Trip 6-28 still in Medford, no entries.

11:49 P.M. Trip 6-28 still in Medford, no entries.

11:50 P.M. Trip 6-28 still in Medford, no entries.

11:51 P.M. Trip 6-28 still in Medford, no entries.

11:52 P.M. Sacramento to Medford: Is Trip 6-28 holding at Medford?
Medford to Sacramento: We are holding, but don't know how long.
Sacramento to Medford: OK. (Medford Log)

11:53 P.M. Trip 6-28 still in Medford, no entries.

11:54 P.M. Trip 6-28 still in Medford, no entries.

11:55 P.M. Trip 6-28 still in Medford, no entries.

11:56 P.M. Trip 6-28 still in Medford, no entries.
11:57 P.M. Trip 6-28 still in Medford, no entries.
11:58 P.M. Trip 6-28 still in Medford, no entries.
11:59 P.M. Trip 6-28 still in Medford, no entries.
12:00 A.M. Trip 6-28 still in Medford, no entries.
12:01 A.M. Trip 6-28 still in Medford, no entries.
12:02 A.M. Trip 6-28 still in Medford, no entries.
12:03 A.M. Trip 6-28 departed from Blocks at Medford. (Medford Log)
12:04 A.M. Trip 6-28 taxiing out to runway for take-off.
12:05 A.M. Stead, Trip 6 to Medford: Is the field clear to take off?
Medford to Stead, Trip 6: OK, field is clear to take off. (Medford Log)
12:06 A.M. No entries.
12:07 A.M. Trip 6-28 off the Medford field. (Medford Log)
12:08 A.M. No entries.
12:09 A.M. No entries.
12:10 A.M. Stead, Trip 6-28 to Medford: Off the Medford field at 12:07 A.M. Am changing frequency.
Medford to Stead, Trip 6-28: OK, change to night frequency.
Stead, Trip 6-28 to Medford: OK on frequencies 5 and 6. (Medford Log)
12:11 A.M. Medford to Stations North and South: Trip 6-28 arrived Medford 11:35 P.M., departed Medford 12:03 A.M., off the Medford field 12:07 A.M. Delay checking weather. Clear to Sacramento per original flight plan. 29 lbs. mail, no express, same passenger load. (Medford Log)
12:12 A.M. No entries.
12:13 A.M. No entries.
12:14 A.M. No entries.
12:15 A.M. No entries.
12:16 A.M. No entries.
12:17 A.M. No entries.
12:18 A.M. No entries.
12:19 A.M. No entries.
12:20 A.M. No entries.
12:21 A.M. No entries.
12:22 A.M. No entries.
12:23 A.M. No entries.
12:24 A.M. No entries.
12:25 A.M. No entries.
12:26 A.M. No entries.
12:27 A.M. Jones, Trip 6-28 to Medford: Reached cruising altitude, twelve thousand at 12:24 A.M.
Medford to Jones, Trip 6-28: OK. (Medford Log)
12:28 A.M. No entries.
12:29 A.M. No entries.
12:30 A.M. No entries.
12:31 A.M. No entries.
12:32 A.M. No entries.
12:33 A.M. No entries.
12:34 A.M. No entries.
12:35 A.M. No entries.
12:36 A.M. No entries.
12:37 A.M. No entries.
12:38 A.M. No entries.
12:39 A.M. No entries.
12:40 A.M. No entries.
12:41 A.M. No entries.
12:42 A.M. No entries.
12:43 A.M. No entries.
12:44 A.M. No entries.
12:45 A.M. No entries.
12:46 A.M. No entries.
12:47 A.M. No entries.
12:48 A.M. No entries.
12:49 A.M. No entries.

12:50 A.M. No entries.
12:51 A.M. No entries.
12:52 A.M. No entries.
12:53 A.M. No entries.
12:54 A.M. No entries.
12:55 A.M. No entries.
12:56 A.M. No entries.
12:57 A.M. No entries.
12:58 A.M. No entries.
12:59 A.M. No entries.
1:00 A.M. No entries.
1:01 A.M. No entries.
1:02 A.M. No entries.
1:03 A.M. Medford to Trip 6-28: No Shasta City report. Trip 6-28 not heard. (Medford Log)
1:04 A.M. Red Bluff to Pacific 6-28: No Shasta City report. Go ahead. Trip 6-28 not heard. (Seattle and Red Bluff Logs)
1:05 A.M. No entries.
1:06 A.M. No entries.
1:07 A.M. No entires.
1:08 A.M. No entries.
1:09 A.M. No entries.
1:10 A.M. Jones, Trip 6-28: Changing flight plan to fourteen thousand to get on top.
(Sent to Airways Traffic Control.) Airways said OK to change flight plan to fourteen thousand.
Oakland to Trip 6-28: OK to change flight plan to fourteen thousand to get on top. Signed, Oakland. Showalter. (Oakland Log)
1:11 A.M. Jones Trip 6-28 to Oakland: OK. (Medford Log)
1:12 A.M. Red Bluff to Medford and Jones, Trip 6-28: Red Bluff repeated 1:11 A.M. Oakland's OK to change flight plan.
Medford to Red Bluff: Trip 6-28 has it. (Red Bluff Log)
1:13 A.M. Red Bluff to Medford: OK I'm unable to read Trip 6-28. (Red Bluff Log)
1:14 A.M. No entries.
1:15 A.M. No entries.
1:16 A.M. No entries.
1:17 A.M. No entries.
1:18 A.M. No entries.
1:19 A.M. No entries.
1:20 A.M. No entries.
1:21 A.M. No entries.
1:22 A.M. No entries.
1:23 A.M. No entries.
1:24 A.M. No entries.
1:25 A.M. No entries.
1:26 A.M. No entries.
1:27 A.M. No entries.
1:28 A.M. No entries.
1:29 A.M. No entries.
1:30 A.M. No entries.
1:31 A.M. No entries.
1:32 A.M. No entries.
1:33 A.M. Red Bluff to United Pacific 6-28: Have you passed the Shasta City Range yet? (Red Bluff Log)
1:34 A.M. Jones, Trip 6-28: West of Shasta City, estimated at 1:15 A.M. Fourteen thousand. We are now going on top at fifteen thousand. Fly on South leg Ft. Jones Range, on course, compass course 190, light rime ice, estimate Ft. Jones 1:50 A.M.
Portland to Jones, Trip 6-28: OK. (Portland Log)
1:35 A.M. Portland transmitted 1:34 A.M. report of Oakland and Red Bluff.
1:36 A.M. No entries.
1:37 A.M. Red Bluff to Trip 6: The Red Bluff Range and localizer is on. Trip 6-28 not heard.
1:38 A.M. No entries.
1:39 A.M. No entries.

1:40 A.M. No entries.

1:41 A.M. Oakland to Trip 6-28 and Portland: Fresno weather: high thin overcast, visibility 10 miles, temperature 52, dew point 29, wind South 4, barometer 29.98.
Livermore weather: estimated three thousand, overcast, lower broken 8 miles visibility, rain, temperature 51, dew point 48, wind South-Southwest 20, barometer 29.98. (Portland Log)

1:42 A.M. Oakland to Trip 6-28: Oakland weather: 1900, overcast, broken clouds, 5 miles visibility, light rain, temperature 51, dew point 50, wind Southeast 8, barometer 29.97. (Portland Log)

1:43 A.M. Oakland to Trip 6-28: Williams 1:41 A.M. weather, 6000, overcast visibility 8 miles, sprinkling, temperature 46, dew point 45, wind East Southeast 9, barometer 29.85.
Reno 1:41 A.M. weather: High thin broken clouds, lower scattered at 8000, visibility 20 miles, temperature 30, dew point 21, wind West, Northwest 9, barometer 29.92.
Trip 6 not heard. (Portland Log)

1:44 A.M. This is station KRBP, Red Bluff, operating on 278 kilocycles (Red Bluff's localizer). (Red Bluff's Log)

1:45 A.M. No entries.

1:46 A.M. No entries.

1:47 A.M. No entries.

1:48 A.M. No entries.

1:49 A.M. No entries.

1:50 A.M. No entries.

1:51 A.M. Sacramento to Red Bluff: Have you any information on Trip 6? Red Bluff to Sacramento: Trip 6-28 estimates over Red Bluff 1:50 A.M. He hasn't come over yet.
Sacramento to Red Bluff: OK. (Red Bluff Log)

1:52 A.M. Oakland to Red Bluff: Potrero facilities (were) off due to power failure at 1:20 A.M. (Red Bluff Log) (Conflicts with Portland)

1:53 A.M. Oaklasd to Red Bluff: Potrero Hills facilities (are) off due to power failure. (Portland Log) (Conflicts with Red Bluff)

1:54 A.M. Stead Trip 6-28: Is Williams Range working all right? Working down through twelve thousand five hundred????
Oakland did not get it all. (Oakland Log)

1:55 A.M. Stead Trip 6-28: Is the Williams Range working? At Twelve thousand five hundred, dropping down now to ten thousand contact. We can hear the Sacramento and the ??? Range. They seem to be drowning out the Williams range. Is it operating OK?
Oakland to Trip 6-28: OK, we will get a check on the Williams Range. (Portland Log)

1:56 A.M. Oakland to Sacramento: Did you get what Trip 6-28 said, and is your Range on? (Oakland Log)

1:57 A.M. Portland to Oakland: He says Sacramento or some other Range is drowning out the Williams Range. (Oakland Log)

1:58 A.M. Oakland to Teletype Station (by inter-phone) Will you have the Williams Range monitored right away?
Teletype Station to Oakland: OK. (Oakland Log)

1:59 A.M. Portland to Oakland: Are you checking to see if the Williams Range is operating OK?
Oakland to Portland: We are monitoring it now. (Portland Log)

2:00 A.M. No entries.

2:01 A.M. No entries.

2:02 A.M. No entries.

2:03 A.M. No entries.

2:04 A.M. No entries.

2:05 A.M. No entries.

2:06 A.M. Oakland to Trip 6-28: Trip 6 not heard. (Medford Log)

2:07 A.M. Stead Trip 6-28 to Red Bluff: Did you find any trouble with the Williams Range? (Portland Log)

2:08 A.M. Oakland to Trip 6-28: We monitored the Williams Range at Oakland and Blue Canyon, and it is operating OK with no interference. (Portland Log)

2:09 A.M. Stead, Trip 6-28: We are having excellent reception, but cannot receive Williams Range on account of some interference. Now flying at twelve thousand over broken cumulus and can't give a very good report now. Will report in a few minutes. (Seattle Log)
Portland to United Trip 6-28: OK.
Portland relayed to Oakland. (Portland Log)

2:10 A.M. Oakland to Portland: What altitude did he say?
Portland to Oakland: At twelve thousand. (Medford Log)

2:11 A.M. Portland to Sacramento: Any ships on the Sacramento Range? Sacramento to Portland: (Portland unable to read Sacramento on account of interference. (Medford Log)

2:12 A.M. Portland to Sacramento: Have you any ships on the Sacramento Range?
Sacramento to Portland: There are no ships on the Sacramento Range. (Portland Log)

2:13 A.M. Portland to Trip 6-28: Trip 6-28 not heard. (Medford Log)

2:14 A.M. Portland to Stead Trip 6-28: Do you want them to cut the Sacramento Range for a few minutes to see if that helps on the interference. Trip 6-28 not heard. (Portland Log)

2:15 A.M. No entries.

2:16 A.M. Oakland to Sacramento: Ceiling at Oakland is expected to remain one thousand to fifteen hundred with light to moderate rain,

2:17 A.M. conditions squally, Oakland to Sacramento with air slightly rough. The wind is South-West to West—Southwest 30 to 40. (Sacramento Log)

2:18 A.M. No entries.

2:19 A.M. No entries.

2:20 A.M. No entries.

2:21 A.M. No entries.

2:22 A.M. Oakland to Teletype Station (interphone): Have Williams PX Stead, Trip 6-28, over this Station. Teletype OK'd.

2:23 A.M. No entries.

2:24 A.M. Oakland to Stead, Trip 6-28, copy Portland: Oakland sent Fresno,

2:25 A.M. Livermore. Oakland, Williams and Reno 1:41 A.M. sequence

2:26 A.M. weather, and advised Sacramento to give Trip 6-28 the Sacramento

2:27 A.M. local weather. Trip 6-28 not heard. (Oakland Log)

2:28 A.M. No entries.

2:29 A.M. No entries.

2:30 A.M. Oakland to Sacramento: Have your local weather for Trip 6-28.

2:31 A.M. Give it to him, as I do not believe he can hear Oakland. (Oakland Log)
Sacramento to Oakland: OK. Just a minute.

2:32 A.M. No entries.

2:33 A.M. No entries.

2:34 A.M. Sacramento to Stead, Trip 6-28: Trip 6-28 not heard. (Oakland Log)

2:35 A.M. Sacramento to Stead, Trip 6-28: Trip 6-28 not heard. (Oakland Log)

2:36 A.M. Sacramento to Stead, Trip 6-28: Sacramento weather: overcast, 4000 lower scattered twelve hundred, visibility 5 miles, wind southeast 15 to 18. Sacramento barometer 29.98. Trip 6 not heard (Oakland Log)

2:37 A.M. No entries.

2:38 A.M. Oakland to Portland: Did you get the Fresno and Livermore weather OK?
Portland to Oakland: Yes.
Oakland to Portland: Give the Fresno and Livermore weather to trip 6-28 and try to contact Trip 6-28 for a Williams position.
Portland to Stead, Trip 6-28: Trip 6-28 not heard. (Oakland Log)

2:39 A.M. Portland to Stead, Trip 6-28: Trip 6-28 not heard.

2:40 A.M. No entries.

2:41 A.M. No entries.

2:42 A.M. Portland to Stead or Jones, Trip 6-28. Trip 6-28 not heard. (Medford Log)
Elko to Trip 6-28: Do you read Elko? Trip 6-28 not heard. (Medford Log)

2:43 A.M. Sacramento to Trip 6-28: Trip 6-28 not heard. (Elko Log)

2:44 A.M. Oakland to Trip 6-28 and Portland: Fresno 2:41 weather; Sev-

2:45 A.M. enty-Five hundred, overcast, visibility 10 miles, temperature 57,

2:46 A.M. dew point 25, wind Southeast 11, barometer 30.00, thin spots.
Livermore weather: Estimated three thousand, overcast, visibility 8 miles, light rain, temperature 59, dew point 48, wind South, Southwest 8, barometer 29.99.
Oakland weather: Nineteen hundred, overcast, lower broken, visibility 5 miles, light rain, temperature 51, dew point 50, wind Southeast 12, barometer 29.99.
Reno weather: High thin scattered, lower scattered at eight thousand, visibility 20, temperature 32, dew point 16, wind West, Northwest 5, barometer 29.84.

Donner Summit weather: High thin overcast, temperature 30, dew point 19, wind West 18. (Portland Log)

2:47 A.M. Portland to Stead, Trip 6-28: Trip 6-28 not heard.
Oakland to Portland: Add the Williams weather on to that, and give him Medford—Oakland weather.
Portland to Oakland OK.

2:48 A.M. Portland to Stead, Trip 6-28: Gave Fresno, Livermore, Oakland,

2:49 A.M. Donner Summit, Reno, Medford and Williams 2:41 A.M. sequence

2:50 A.M. weather. (Oakland Log)

2:51 A.M. Trip 6-28 not heard.

2:52 A.M. Sacramento to Stead. Trip 6-28: Sacramento weather; overcast four thousand, lower scattered twelve hundred, visibility 5 miles,

2:53 A.M. light rain, wind South 16, Sacramento barometer 29.98. (Red Bluff Log)
Trip 6-28 not heard.

2:54 A.M. No entries.

2:55 A.M. No entries.

2:56 A.M. Burbank to all Stations: Burbank standing by on Mountain Night Frequencies, reception OK. Can read Oakland to Salt Lake, also Oakland to Portland. (Burbank Log)

2:57 A.M. Oakland to Burbank: Stand by on Mountain Frequency for Trip

2:58 A.M. 6-28 and suspend all traffic until further advised.
Oakland East and North: Suspend all traffic except ship to ground until advised.

2:59 A.M. Portland to Oakland: Can you check with Meterologist and find out about wind shift, and the winds aloft.
Oakland to Portland: Will see if I can. (Portland Log)

3:00 A.M. (Log entry) Time signal received OK. Conditions moderate to heavy static at times. Considerable fading of Oakland, Sacramento and Portland. Unable to read Red Bluff. Unable to hear Trip 6-28 (Medford Log)

3:01 A.M. No entries.

3:02 A.M. No entries.

3:03 A.M. Stead Trip 6-28 to Oakland: We have not been able to get Ranges. Have continued on compass course 150 degrees. Receiving Oakland strong and get an A on Fresno Range. Estimated position between Williams and Potrero. Can you tell me where the North

3:04 A.M. leg of the Fresno Range intercepts the Oakland Range? Where does the Northeast leg of the Oakland Range intersect the North leg of the Fresno Range. The Oakland Range is building up. (Portland Log) (Conflicts with Oakland Log)
Stead Trip 6-28: ???? now receiving a very distinct signal on

3:05 A.M. ??? Range. Get Fresno Range, estimated between Williams and Potrero. ?? Tell me where the Northeast leg of the Oakland Range intersects the Fresno North leg Range???

3:06 A.M. Oakland to Trip 6-28: One minute.
Oakland to Stead, Trip 6-28: The northeast leg of the Oakland Range intersects the North leg of the Fresno Range vicinity of Fairfield or Clarksburgh, and the Potrero facilities are out due to

3:07 A.M. power failure. Oakland barometer is 30.03.
Stead, Trip 6-28 to Oakland: OK.
Oakland to Trip 6-28: What is your altitude and position?
Stead, Trip 6-28 to Oakland: At ten thousand five hundred, up and down five hundred. See break ahead.
Oakland to Trip 6-28: OK and there are no United ships flying.
Jones, Trip 6-28 to Oakland: OK and ???? (interference from Northwest Trip 6).
Oakland to Trip 6: Repeat, go ahead.
Portland to Oakland: He wants to know if any lightning and rain at Oakland? Oakland to Portland: OK.
Oakland to Stead, Trip 6-28: No lightning can be seen from here.
Jones, Trip 6-28: OK. (Oakland Log) (Conflicts with Portland Log)

3:08 A.M. Stead Trip 6-28: We are at ten thousand five hundred in the clear between layers with a big break ahead. Believe we will drop down through it. What is the Oakland weather?

3:09 A.M. Oakland to Trip 6-28: Oakland weather nineteen hundred, overcast, lower broken, visibility 4 miles light rain.
Trip 6 to Oakland: Any lightning or showers around Oakland?

3:10 A.M. Oakland to Trip 6: There is no lightning, but some light rain.
Trip 6-28: OK. (Portland Log)

3:11 A.M. No entries.

3:12 A.M. No entries.

3:13 A.M. No entries.

3:14 A.M. No entries.

3:15 A.M. Oakland to Stead, Trip 6-28: Special Hamilton weather at 3:05 A.M. Estimated twelve thousasd, overcast, lower broken, visibility 8 miles, light mist, wind South 6. (Red Bluff Log)
Jones, Trip 6-28: OK (Oakland Log)

3:16 A.M. Oakland to Stead, Trip 6-28: Oakland weather, overcast, ceiling twenty-two hundred, visibility good, 15 to 20 miles. First course light is visible, wind Southeast light, no lightning visible from any direction. Signed, Oakland, Showalter.
Jones, Trip 6-28: OK. (Oakland Log)

3:17 A.M. Stead, Trip 6-28 to Oakland: Definitely on Northeast leg of the Oakland Range ????
Oakland to Trip 6-28: OK, and repeat all after "Oakland Range.
Trip 6-28: Not heard. (Oakland Log)

3:18 A.M. Oakland to Medford: How much fuel on United Trip 6-28 out of your Station.
Medford to Oakland: OK.

3:19 A.M. Medford to Oakland: No fuel on at Medford.
Oakland to Medford: OK. (Red Bluff Log)

3:20 A.M. Oakland to Stead, Trip 6-28: You are cleared to the Oakland Range and no Airways Traffic reported. Showalter is on the roof, and it is OK to come direct to Oakland.
Stead, Trip 6 to Oakland: OK. (Oakland Log)

3:21 A.M. No entries.

3:22 A.M. No entries.

3:23 A.M. No entries.

3:24 A.M. No entries.

3:25 A.M. No entries.

3:26 A.M. No entries.

3:27 A.M. No entries.

3:28 A.M. No entries.

3:29 A.M. No entries.

3:30 A.M. No. entries.

3:31 A.M. No entries.

3:32 A.M. No entries.

3:33 A.M. No entries.

3:34 A.M. No entries.

3:35 A.M. Salt Lake to Portland: Has Oakland cleared the circuit yet:
Portland to Salt Lake: Not yet. (Medford Log)

3:36 A.M. No entries.

3:37 A.M. No entries.

3:38 A.M. No entries.

3:39 A.M. No entries.

3:40 A.M. Oakland to Stead, Trip 6-28: The Bay weather.
Jones, Trip 6 to Oakland: Go ahead.
Oakland to Trip 6-28: The Oakland ceiling remains about the same, and San Francisco is eighteen hundred broken clouds.
Jones, Trip 6-28 to Oakland: What was that ceiling?
Oakland to Trip 6-28: Oakland ceiling twenty-two hundred, San Francisco, eighteen hundred, broken clouds, visibility 20 miles.
Jones Trip 6 to Oakland: OK.

3:41 A.M. Oakland to Trip 6: The Oakland barometer is 30.02.
Jones, Trip 6 to Oakland: OK. (Oakland Log)

3:42 A.M. Oakland to Stead, Trip 6: The Livermore 3:41 A.M. weather: estimated three thousand, overcast, visibility 10 miles.
Stead, Trip 6-28: OK. (Red Bluff and Medford Logs)

3:43 A.M. Oakland to Stead, Trip 6-28: Correction on Livermore weather. It's broken with ten miles visibility.
Stead, Trip 6-28 to Oakland: OK. (Red Bluff and Medford Logs)

3:44 A.M. No entries.

3:45 A.M. No entries.

3:46 A.M. No entries.

3:47 A.M. No entries.

3:48 A.M. No entries.

3:49 A.M. Oakland to Stead, Trip 6-28: What is your position now?
Stead, Trip 6-28 to Oakland: Still on the Northeast leg of the Oakland Range. Wind ???? about 25 degrees to right and proceeding towards Oakland, and that is all I can tell you.
Oakland to Trip 6-28: OK. (Oakland Log) (Conflicts with Portland)
Stead Trip 6-28: Still on Northeast leg Oakland Range. Have to deflect 20 to 25 to the right to stay on beam. (Portland Log) (Conflicts with Oakland Log above)

Stead Trip 6-28: We are still following the Northeast leg of the Oakland Range, and there is a 20 to 25 degree drift to the right of the leg. We have definitely checked the Northeast leg of the Oakland Range and proceeding towards Oakland. (Red Bluff Log) (Conflicts with above Oakland and Portland Logs)
Stead, Trip 6-28 to Oakland: We are still on the Northeast leg of the Oakland Range. It is necessary to correct 20 to 25 degrees to the right in order to stay on beam. We have positively located the Northeast leg of the Oakland Range. (Seattle Log) (Conflicts with above logs)

3:50 A.M. No entries.

3:51 A.M. No entries.

3:52 A.M. No entries.

3:53 A.M. Oakland to Stead, Trip 6-28: Reno 3:41 A.M. weather: Scattered clouds eight thousand, visibility???
Williams weather; five thousand, overcast, lower scattered, seventeen thousand, visibility 5 miles.
Stead, Trip 6-28: OK, what do you have there?
Oakland sent 3:41 A.M. sequence weather.
Trip 6-28 to Oaklond: OK. (Red Bluff Log)

3:54 A.M. Portland to Oakland: Was that 20 degree correction right or left?
Stead, Trip 6-28: Takes about 25 degrees to right to stay on course flying about 225 degree course. We have a North wind here to stay on course. (Medford and Portland Logs)

3:55 A.M. Portland to Trip 6-28: OK.

3:56 A.M. No entries.

3:57 A.M. No entries.

3:58 A.M. No entries.

3:59 A.M. No entries.

4:00 A.M. (Log Entry, Medford) Time signal out OK. Conditions poor. Oakland and stations south fading considerably. Moderate to heavy static at times. (Medford Log)
Oakland to Sacramento: Ask Captain Williams the drift on the Sacramento Range.

4:01 A.M. Sacramento to Oakland: The drift was to the right. (Oakland Log)

4:02 A.M. No entries.

4:03 A.M. Portland to Stead, Trip 6-28: Westbound between Donner Summit and Sacramento reported 20 to 25 degrees to the right, ninety miles per wind. Trip 6-28 not heard. (Oakland Log)

4:04 A.M. Oakland to Stead, Trip 6-28: Did you get that, Stead. Trip 6 not heard. (Medford Log)

4:05 A.M. No entries.

4:06 A.M. Oakland to Stead, Trip 6-28: Oakland repeated Cap't Williams' information of 4:00 A.M.
Sacramento to Oakland: (Cap't Williams) That was compass course 200 Westbound, ordinarily, and corrected to 175.
Oakland to Stead, Trip 6: Did you get that Stead? Trip 6, not heard. (Oakland Log)

4:07 A.M. No entries.

4:08 A.M. Stead, Trip 6-28 to Oakland: What time did I give you my location on North Leg Oakland Range?
Oakland to Trip 6-28: At 3:17 A.M. Northeast leg Oakland Range.
Stead Trip 6-28: On Northeast leg Oakland Range, course below

4:09 A.M. nine thousand. best of it at six thousand. Been out fifty minutes. Course now 225 N. to left A to right. Now takes 270 degrees to stay on course. If had been correct should be over Oakland. Am dropping down to see what is below. Have sixty gallons of gas, reduced throttle. There is something wrong with this course.

4:10 A.M. (Portland Log) (Conflicts Oakland)
Trip 6-28 to Oakland: What time over did I give that information? (Now definitely on the Northeast leg of the Oakand Range)
Oakland to Trip 6-28: One minute.
Oakland to Stead, Trip 6: At 3:17 A.M. you reported definitely on Northeast leg of Oakland Range.
Stead Trip 6-28 to Oakland: OK, I have been over 50 minutes from there, left of range???? (static) am 30 degrees off in my computations. There must be something wrong with the range. I have 60 gallons of gas, and I am (descending). Don't know exactly where I am???? (static terrible). I figure I should be over now. There must be something wrong with the range. I am going to come down slowly.
Oakland to Trip 6-28: OK. (Oakland Log) (Conflicts with Portland)

4:11 A.M. No entries.

4:12 A.M. No entries.

4:13 A.M. No entries.

4:14 A.M. Oakland to Trip 6-28: What is your altitude now.
Stead, Trip 6-28: Can't tell, I am descending now.
Oakland to Trip 6-28: OK. (Oakland Log)

4:15 A.M. Oakland to Trip 6-28: Take a bearing on the Oakland Range with your loop. (Portland Log)
Stead, Trip 6-28: Just a minute. (Oakland Log)

4:16 A.M. Jones Trip 6-28: West of Oakland on Northwest leg of Oakland Range. What is the best manifold pressure.

4:17 A.M. Oakland to Trip 6-28: One minute.

4:18 A.M. Oakland to Stead, Trip 6-28: Decrease revolutions per minute to seventeen hundred, and increase the manifold pressure.

4:19 A.M. Trip 6-28 to Oakland: OK, incrase it to what? (Oakland Log)

4:20 A.M. Oakland to Trip 6-28: Increase it till you get seventeen hundred.

4:21 A.M. Trip 6-28 to Oakland: OK. (Oakland Log)

4:22 A.M. Oakland to Trip 6-28: Decrease the revolutions per minute to seventeen hundred and increase the manifold pressure. Put your props to cruise at seventeen hundred and then increase the pressure with your throttle.

4:23 A.M. Trip 6-28 Oakland: What pressure?
Oakland to Trip 6-28: The manifold pressure. In other words, use your props.

4:24 A.M. You have to get about 22 inches on your manifold pressure.

4:25 A.M. Stead, Trip 6-28 to Oakland: OK. (Oakland Log)

4:26 A.M. No entries.

4:27 A.M. No entries.

4:28 A.M. No entries.

4:29 A.M. No entries.

4:30 A.M. Oakland to Stead, Trip 6-28: What is your compass course heading now? Stead, Trip 6-28: Now flying at 95 degrees exactly.

4:31 A.M. Oakland to Trip 6-28: OK. (Oakland Log)

4:32 A.M. No entries.

4:33 A.M. Sacramento (Cap't Williams) to Trip 6-28: Fly at 50 degrees and continue to take bearings on Oakland and Sacramento. Trip 6 not heard. (Oakland Log)

4:34 A.M. No entries.

4:35 A.M. Stead Trip 6-28: Have lightning static and can't read. Will try again in few minutes. (Portland Log)
Oakland acknowledged. (Portland Log)
Seattle to Trip 6-28: Fly at 50 degrees compass course and continually take bearings on Oakland and Sacramento Ranges. (Seattle Log)

4:36 A.M. Oakland to Stead, Trip 6-28: What quadrant are you listening to on the Oakland Range? Trip 6-28 not heard. (Oakland Log)
Oakland to Stead, Trip 6-28: Few thin clouds at Oakland, appears to be a few low clouds over the hills at Oakland. (Showalter)

4:37 A.M. Trip 6-28 not heard. (Oakland Log)

4:38 A.M. No entries.

4:39 A.M. Stead Trip 6-28: I have a check on Oakland and Fresno Ranges, 75 degrees Oakland, and bearing on Fresno is 85 degrees. Hard to get due to static.

4:40 A.M. Oakland to Stead, Trip 6-28: OK.

4:41 A.M. Oakland to Stead, Trip 6-28: Can you tune on the Oakland Range and let us know what quadrant you are in? (Oakland Log)

4:42 A.M. Stead Trip 6-28: We are light A quadrant and on course and think on the Northwest leg of Oakland Range.
Oakland to Stead, Trip 6-28: OK. (Oakland Log)

4:43 A.M. Oakland to Stead, Trip 6-28: See if you can get a bearing on Sacramento. Trip 6-28 not heard. (Oakland Log)

4:44 A.M. Portland to Trip 6-28: Is that Magnetic or true?
Jones, Trip 6-28: All bearings are magnetic.
Portland to Oakland: All bearings magnetic. (Portland Log)

4:45 A.M. Oakland to Stead, Trip 6-28: Were you getting an A on the Fresno Range when you checked it. Trip 6 not heard. (Oakland Log)

4:46 A.M. Oakland to Stead, Trip 6-28: Go ahead.
Stead, Trip 6-28: Receiving bearing on 350 kilocycles, 35 degrees and identification signal, dash dot dot dot space dot.
Oakland to Trip 6-28: OK. (Oakland Log)

4:47 A.M. Portland to Trip 6-28: That is Boise. (Portland Log)

4:48 A.M. No entries.

4:49 A.M. No entries.

4:50 A.M. Oakland to Stead, Trip 6-28: Try to get a bearing on Sacramento.
Stead, Trip 6-28: Unable to get bearing on Sacramento.
Oakland to Stead, Trip 6-28: OK. Now try to get another bearing on Oakland and Fresno again. Trip 6-28 not heard. (Oakland Log)

4:51 A.M. Oakland to Stead, Trip 6-28: Repeated above sent at 4:50 A.M. Trip 6-28 not heard. (Oakland Log)

4:52 A.M. Portland to Oakland: Don't believe he acknowledged the message from Sacramento about the 50 degrees. (Oakland Log)
Oakland to Stead, Trip 6-28: Get a bearing on Williams (326

4:53 A.M. kilocycles and one on Fresno and Oakland. Trip 6 not heard. (Oakland Log)
Stead Trip 6-28: I cannot get a bearing on Oakland account of this lightning and static. (Red Bluff Log)
Stead Trip 6-28: Am on the (Northwest??) (Southwest??) leg of Oakland Range. Cannot get anything on 326 kilocycles.

4:54 A.M. Oakland to Trip 6-28: Try and get one on Oakland Fresno. (Oakland Log)

4:55 A.M. Stead Trip 6-28: Could not get bearing, flying at 40 to stay on course. Almost on course on Oakland Range, slight A and getting a strong A on the Fresno Range. (Portland Log)
Oakland, Stead Trip 6-28: When you gave us your bearings, of Oakland and Fresno, what quadrant were you in?

4:56 A.M. Stead, Trip 6-28: I was almost on course, Oakland Range and (Strong) A Fresno Range.
Oakland to Stead, Trip 6-28: OK you are coming this way then. Do you see any lights. (Oakland Log)

4:57 A.M. Oakland to Stead, Trip 6-28: What is your altitude, and do you see any lights?
Stead Trip 6-28: About eighteen hundred, and I don't see any lights. (Oakland Log)

4:58 A.M. Oakland to Stead, Trip 6-28: Have you any visibility at all?
Stead, Trip :-28: No clouds below and few scattered clouds above. (Oakland Log)
Stead, Trip 6-28: Visibility excellent, few scattered clouds. We are out over the water. (Portland Log)
Oakland to Stead, Trip 6-28: Are you out over the water?
Stead, Trip 6-28: That is OK.
Oakland to Trip 6-28: Your signals are getting stronger all the time. (Oakland Log)

4:59 A.M. Oakland to Stead, Trip 6-28: The Oakland field wind is southeast 15 to 20, and throttle as much as possible.
Trip 6-28 not heard. (Oakland Log)
Portland to Trip 6-28: Portland repeated 4:59 A.M. information. Trip 6-28 not heard. (Oakland Log)

5:00 A.M. Oakland to Stead, Trip 6:28: The Oakland field wind is Southeast 15 to 20, and throttle as much as possible.
Trip 6-28 not heard.

5:01 A.M. Trip 6-28: At 65 degrees, can see a beacon light. Will you get the wind at Farrolon Islands. That is the first light I have seen. (Portland Log)

5:02 A.M. Oakland to Trip 6-28: Will get the wind at Farrolon Islands right away, and will tell them to listen to you.
Stead, Trip 6-28: OK. (Oakland Log)

5:03 A.M. Oakland to Stead, Trip 6-28: Will you give us another gas check?
Stead, Trip 6-28: About 20 gallons, and can now see a light straight ahead of me at compass course 65 degrees.
Oakland to Trip 6-28: OK, and get up near the light you see. (Oakland Log)
Portland to Trip 6-28: Was the light on the left or the right side of the Oakland beam?

5:04 A.M. Stead, Trip 6-28: Light is straight ahead and in the N quadrant.
Oakland to Trip 6-28: OK. (Portland Log)

5:05 A.M. Portland to Oakland: Light is possibly Point Reyes.
Oakland to Portland: OK. (Oakland Log)

5:06 A.M. Oakland to Trip 6-28: If a light ten miles south of on course it is Farrolons, and if it is Point Reyes it will be on the North side of Range.
Stead, Trip 6-20: OK. Am getting N twilight signal. There is a light on my right at 70 degrees. My compass course is 90 degrees. How far from shore am I?

5:07 A.M. Oakland, to Trip 6-28: One minute. (Oakland Log)

5:08 A.M. Portland to Oakland: The light he is heading for is Point Reyes Light. (Portland Log)

Trip 6-28: Which is Farrolon's, the one straight ahead of me or the one to the right? (Oakland Log)

5:09 A.M. Portland to Trip 6-28: Believe you are about 8 miles from Point Reyes.

5:09 A.M. Stead, Trip 6-28: Is that eight miles straight ahead?
Portland to Trip 6-28: That is OK. (Oakland Log)

5:10 A.M. Oakland to United Trip 6-28: How far is that light from the shore?
United Trip 6-28 to Oakland: What is the tide and the wind? (Portland Log)

5:11 A.M. Portland to Oakland: We estimate his position 8 miles from Point Reyes. The Point Reyes seem to have Peninsula. Seems 3 or 4 miles beyond light. (Portland Log)

5:12 A.M. Portland to Trip 6-28: The Peninsula is 3 or 4 miles long, inland side is rough??? It is semi-circular (point) (Oakland Log)

5:13 A.M. Oakland to Trip 6-28: Do not land on the beach. Land on the bench on shore side of light. (Portland Log)
Oakland to Trip 6-28: Land up back of light on a bench. It is level and it is rough along the shore. Turn your light on and we are getting the wind for you now.
Stead, Trip 6-28: OK, the lights are on and will land to (right of beacon). (Oakland Log)

5:14 A.M. Oakland to Trip 6-28: If you land on water, wheels up. If you land on bench, wheels down.
Trip 6-28: Compass course bearing now 50 degrees on Oakland Range. (Portland Log)
Cannot raise Point Reyes on telephone, still trying. Give us another check on the Oakland Range. (Oakland Log)

5:15 A.M. Trip 6-28: As near on Oakland Range (50 degrees). What is the wind at Farrolons? (Oakland Log)

5:16 A.M. Oakland to Stead, Trip 6-28: Still no wind from Farrolons.
Portland to Trip 6-28: Are you still N twilight?. (Oakland Log)

5:17 A.M. Stead, Trip 6-28 to Portland: Strong N now, advise if tide is in or out. (Portland Log)
Portland to Trip 6-28: OK.

5:18 A.M. Oakland to Stead, Trip 6-28: If you get to Point Reyes and have enough fuel after you pass the (light), you will find a sandy beach on the East side of the (Drakes Inlet). Follow the shore and there is a big wide beach there.
Stead, Trip 6-28: North or South of Point Reyes? (Oakland Log)

5:19 A.M. Oakland to Trip 6-28: Just a minute.
Trip 6-28: Ready to land now. We turned at the lights, and there are two lights. One looks like a ship. We are still over the water. (Oakland Log)
Stead, Trip 6-28: We are right now turning South to a Point to some lights. Looks like a ship. We are practically out of gas. We are over water, right on the shore. (Portland Log)

5:20 A.M. Oakland to Stead, Trip 6-28: Follow the shore line, and if it is Point Reyes light you will find a sandy beach on South side of Drakes Inlet. Trip 6-28 not heard. (Oakland Log)

5:21 A.M. Oakland to Stead, Trip 6-28: We are trying to contact the boat you saw and have them follow you. (Oakland Log)

5:22 A.M. Stead, Trip 6-28: We pulled a flare and the shore is too rough for landing. Give us the wind.
Oakland to Trip 6-28: The wind is Southeast 12 at Point Reyes, anl generally southeast 12 in that vicinity. Trip 6 not heard. (Oakland Log)

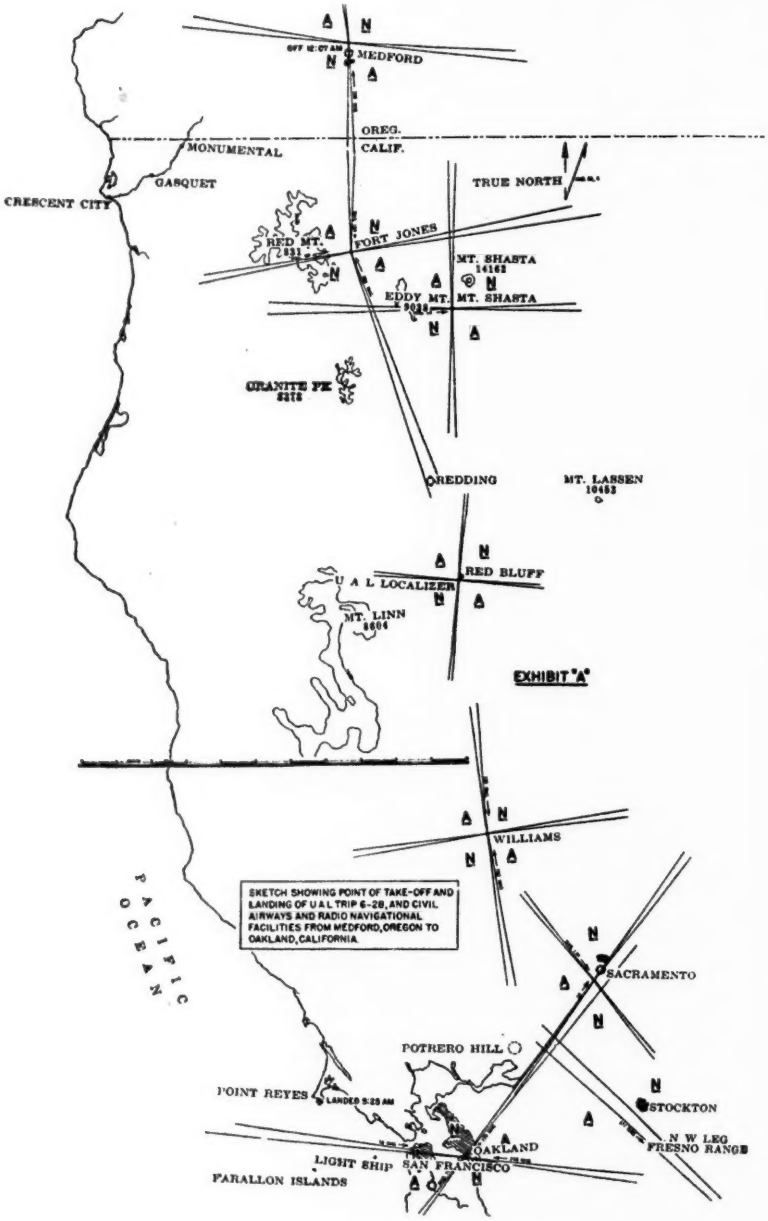
5:23 A.M. Trip 6-28 to Oakland: OK. (Red Bluff Log, also Burbank Log)

5:24 A.M. Portland to Trip 6-28: After you passed the light, was there about 2 miles of shore line running east and west?
Stead, Trip 6-28: We can't tell for sure. (Red Bluff Log)

5:25 A.M. to 5:25 A.M. (Some carrier on) (Red Bluff Log)

5:26 A.M. Oakland to Stead, Trip 6-28: We are trying to get ahold of all the boats in that territory, and locate the one you saw.
Trip 6-28 not heard. (Red Bluff Log)

5:27 A.M. Portland to Trip 6-28: Portland repeated 5:26 A.M. remarks, and said: Do you see lights now?
Trip 6-28 not heard. (Red Bluff Log)
(All of the above contacts were made on Mountain Frequency (5) 3147.5 kilocycles)


MEDFORD
OREG.
CALIF.
MONUMENTAL
GASQUET
CRESCENT CITY
TRUE NORTH
RED MT.
FORT JONES
MT. SHASTA
14162
EDDY MT.
MT. SHASTA
GRANITE PK
REDDING
MT. LASSEN
10463
RED BLUFF
U A L LOCALIZER
MT. LINN
EXHIBIT "A"
WILLIAMS
SACRAMENTO
POTRERO HILL
POINT REYES
LANDED 9:25 AM
STOCKTON
OAKLAND
SAN FRANCISCO
LIGHT SHIP
FARALLON ISLANDS
N W LEG
FRESNO RANGE
PACIFIC OCEAN
SKETCH SHOWING POINT OF TAKE-OFF AND LANDING OF U A L TRIP 6-28, AND CIVIL AIRWAYS AND RADIO NAVIGATIONAL FACILITIES FROM MEDFORD, OREGON TO OAKLAND, CALIFORNIA

CIVIL AERONAUTICS AUTHORITY: AIRMAN CERTIFICATE SUSPENSION ORDER*

At a session of the Civil Aeronautics Authority
held at its office in Washington, D. C.,
on the 25th day of February, 1939

In the Matter of

CHARLES B. STEAD,

Holder of Airline Pilot
Certificate of Competency
No. 2072

} ORDER No. 609-1

Order to Show Cause and Temporarily Suspending Airline Pilot Certificate of Competency

An accident involving aircraft of United States Registry NC-16066 having occurred on or about November 29, 1938, at or near Point Reyes, California, and the Air Safety Board having conducted an investigation of said accident, and having reported to the Authority the facts, conditions and circumstances relating thereto pursuant to the provisions of Section 702 of the Civil Aeronautics Act of 1938, and upon due consideration of said report;

IT APPEARING TO THE AUTHORITY, That there is probable cause to believe that the pilot of said aircraft, Charles B. Stead (hereinafter sometimes referred to as "respondent"), holder of Airline Pilot Certificate of Competency No. 2072, is not competent to perform the duties of an airline pilot, in that such reported facts, conditions and circumstances relating to said accident indicate that he failed to perform his duties in the following particulars:

(a) On or about November 28, 1938, respondent was in command of aircraft NC-16066 and navigated said aircraft in scheduled operation between Seattle, Washington, and San Diego, California;

(b) Prior to the departure of said aircraft from Medford, Oregon, while enroute, respondent failed to give proper consideration to the fuel supply on board said aircraft, or to the amount of fuel that might be required for the trip in view of adverse weather and wind conditions forecast over the course to be flown;

(c) After respondent reported he was on a leg of the Oakland, California, radio range (thought by him to be the northeast leg), he failed to recognize the inconsistency of the compass headings of the aircraft with the heading required to fly the on-course signal of the northeast leg;

(d) Respondent continued the flight of said aircraft in a westerly direction for an excessive period of time, beyond that which would have been required for said flight to reach Oakland from respondent's estimated position on the northeast leg of the Oakland radio range;

* On the same date suspension orders were also issued with the relation to the Air Carrier Dispatcher Certificates of Competency of Thomas P. Van Sciever and Philip S. Showalter.

(e) Respondent failed to work an orientation problem and to establish definitely the position of the aircraft, either at the time of intersecting a leg of the Oakland radio range at 3:17 a m., November 29, 1938, or during such additional period of time as to be able either to remain within range of or to return to safe landing area;

(f) No effort was made by respondent to conserve fuel within a reasonable period of time after the aircraft failed to arrive in Oakland subsequent to intersecting a leg of the Oakland radio range;

AND THE AUTHORITY FINDS THAT:

(1) An emergency exists requiring immediate action in respect of safety in air commerce;

(2) Such emergency requires the suspension of Airline Pilot Certificate of Competency, No. 2072, held by respondent, for a period of thirty (30) days from the date hereof;

(3) A public hearing is necessary to enable the Authority to determine whether (a) the public interest requires that said Certificate be suspended, in whole or in part, for any further period, and (b) any cause exists which would justify the permanent revocation of such Certificate, in whole or in part.

Now, Therefore, the Authority, acting pursuant to Section 205(a), 609, and 1005(a) of the Civil Aeronautics Act of 1938, issues the following order:

IT IS ORDERED, That Airline Pilot Certificate of Competency, No. 2072, be and the same is hereby suspended for a period of thirty (30) days from the date hereof,

IT IS FURTHER ORDERED, That Charles B. Stead, holder of said Certificate of Competency, be and he is hereby directed to appear before a duly authorized representative of the Authority on such date, within thirty (30) days from the date hereof, and at such place, within the City and County of San Francisco, California, as shall be designated by the Authority, and show cause why said Certificate of Competency should not be suspended, in whole or in part, for any further period, and why said Certificate should not be permanently revoked, in whole or in part.

By the Authority:
PAUL J. FRIZZELL,
Secretary.

(SEAL)

CIVIL AERONAUTICS AUTHORITY: AIRMAN CERTIFICATE HEARING ORDER

At a session of the Civil Aeronautics Authority
held at its office in Washington, D. C.,
on the 1st day of March, 1939

In the Matter of CHARLES B. STEAD, Holder of Airline Pilot Certificate of Competency No. 2072	Docket No. 197

In the Matter of THOMAS P. VAN SCIEVER, Holder of Air Carrier Dispatcher Certificate of Competency No. 258	Docket No. 200
In the Matter of PHILIP S. SHOWALTER, Holder of Air Carrier Dispatcher Certificate of Competency No. 267	Docket No. 201.

Order Setting Date and Place for Hearing and Designating Presiding Officer

The Authority having on February 25, 1939, issued orders Nos. 609-1, 609-2, and 609-3 temporarily suspending the Certificates of Competency of CHARLES B. STEAD, THOMAS P. VAN SCIEVER, and PHILIP S. SHOWALTER, respectively, and directing these said persons to appear before a duly authorized representative of the Authority on such date and at such place within the City and County of San Francisco, California, as shall be designated by the Authority, and show cause why these said Certificates of Competency should not be suspended for a period longer than 30 days and why the said Certificates should not be permanently revoked, and having on the same date issued order No. 609-4 joining and consolidating for hearing the proceedings instituted by said orders;

IT IS ORDERED BY THE AUTHORITY THAT: The hearing on the matters with respect to which respondents are required to show cause shall be held at 660 Mission Street, City and County of San Francisco, California, on the 20th day of March, 1939, at 10 A.M. (Pacific Standard Time).

IT IS FURTHER ORDERED THAT: Harllee Branch, Vice Chairman of the Authority, be and he hereby is designated to preside at said hearing, and he is hereby authorized to adjourn or postpone such hearing to another time or place either before the time when the same is first directed to be heard, or thereafter, and is further authorized to sign and issue subpoenas, to administer oaths, to examine witnesses, to receive evidence, to take depositions, to grant or deny in his discretion motions for a severance of the issues involved in this proceeding, and to do and perform such other acts as are ordinarily entrusted to a presiding judicial officer.

By the Authority:

/s/ PAUL J. FRIZZELL,
Secretary.

(SEAL)

CIVIL AERONAUTICS AUTHORITY: DOCKET NO. 8-401-E-1

Certificate of Public Convenience and Necessity

Delta Air Corporation—"Grandfather" Certificate

In the matter of the Application of Delta Air Corporation for a Certificate of Public Convenience and Necessity under Section 401(e)(1) of the Civil Aeronautics Act of 1938.

Decided February 25, 1939.

Applicant found entitled, under section 401(e)(1) of the Act to a certificate of public convenience and necessity authorizing it to engage in air transportation with respect to mail, passengers, and property between the terminal point Charleston, S. C., certain intermediate points, and the terminal point Fort Worth, Tex.

Ernest V. Moore for Applicant.
Fred M. Glass and *Hubert A. Schneider* for Civil Aeronautics Authority.

Opinion

BY THE AUTHORITY:

Delta Air Corporation, by application filed September 23, 1938, and amendments thereto, filed October 11, 1938, and October 17, 1938, seeks a certificate of public convenience and necessity under section 401(e)(1) of the Civil Aeronautics Act of 1938. Authorization is sought by the applicant to engage in scheduled air transportation of mail, passengers, and property between the terminal points Charleston, S. C., and Fort Worth, Tex., and the intermediate points Columbia, S. C., Augusta and Atlanta, Ga., Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., and Tyler and Dallas, Tex.

The application was filed within the statutory period and due notice thereof was given to the public and to the air carriers included in a list issued by the Authority. A public hearing thereon was held before an examiner of the Authority, whose report was duly filed and served. Under the Authority's procedure, an opportunity was given for taking exceptions to to this report. Applicant filed no exceptions.

Section 401(a) of the Act provides that no air carrier shall engage in any air transportation unless there is in force a certificate issued by the Authority authorizing such air carrier to engage in such transportation. However, an air carrier engaged in air transportation on the date of enactment of the Act may continue so to engage until such time as the Authority shall pass upon an application for a certificate for such transportation, if within 120 days from the date of enactment of the Act such air carrier files an application for such certificate. Section 401(e)(1) requires that a certificate shall be issued to an applicant upon proof only that during the so-called "grandfather" period[1] it was an air carrier, continuously operating as such (except as to interruptions of service over which it had no control) unless the service it rendered for such period was inadequate and inefficient.

Proof that an applicant was an air carrier involves, under the Act, proof that it was a citizen of the United States. To establish this, applicant herein introduced evidence that it is a corporation, incorporated under the laws of the State of Louisiana in 1930. The applicant further introduced evidence

1. From May 14, 1938 to August 22, 1938, the effective date of section 401.

that 14,124 shares or 77 per cent of its total outstanding shares of capital stock, including those shares held by officers and directors, were held by citizens of the United States. This evidence was in the form of a certificate of the registrar of voters of the Parish of Ouachita, La., showing that the holders of 13,528 shares of stock were, as of October 24, 1938, registered voters in the parish, and affidavits of two stockholders not named in that certificate, owning 596 shares of the stock, that they were born in the United States and had never been divested of citizenship. Applicant's vice president and general manager also testified that to his personal knowledge all the officers, directors, and stockholders of the applicant were then and during the "grandfather" period, citizens of the United States.

To prove that it continuously operated as an air carrier during the "grandfather" period, applicant introduced evidence that it began transporting mail over air mail route No. 24 in July, 1934, pursuant to a contract awarded by the Postmaster General on June 8, 1934, and that it began passenger and property service in August, 1934. The record shows that it has continuously transported passenger, property, and mail over this route, serving the points designated in the contract and subsequent extensions thereof, with the exception noted below, throughout the "grandfather" period.

During the "grandfather" period, the applicant conducted one round trip daily between Atlanta, Ga., and Fort Worth, Tex., with stops at Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., Tyler (except as noted below) and Dallas, Tex.; one additional round trip daily between Atlanta and Fort Worth, with stops at all of the same points except Meridian and Tyler; one round trip daily between Charleston, S. C., and Atlanta, Ga., with stops at Columbia, S. C., and Augusta, Ga.; and one round trip daily, except Sundays and holidays, between Atlanta and Birmingham. Passengers, property, and mail were carried on all schedules except that no mail was carried on the eastward run of the last mentioned trip from Birmingham to Atlanta.

Prior to August 1, 1938, a load limit was prescribed for aircraft using the landing field at Tyler because of the poor condition of that field, which required the applicant to omit stops if its airplanes carried in excess of four passengers. The applicant was required to discontinue service to that point in the interest of safety on August 1, 1938. Occasional interruptions of service occurred with respect to the westward run of the trip between Atlanta and Birmingham, which was operated at night and was canceled a few times because of adverse weather conditions.

There is no evidence in the record indicating that the service rendered by the applicant during the "grandfather" period was inadequate or inefficient.

Section 401(e)(1) of the Act provides that a certificate issued under that section shall authorize the applicant to engage in air transportation "(A) with respect to all classes of traffic for which authorization is sought, except mail, between the terminal and intermediate points between which it * * * so continuously operated between May 18, 1938, and the effective date of this section, and (B) with respect to mail and all other classes of traffic for which authorization is sought, between the terminal and intermediate points between which the applicant * * * was authorized by the Postmaster General prior to the effective date of this section, to engage in the transportation of mail."

Authority to transport mail over air mail route No. 24 was granted to the applicant by the Postmaster General under the contract previously men-

tioned, which defined the route as extending from Charleston, S. C., to Fort Worth, Tex., via Columbia, S. C., Augusta and Atlanta, Ga., Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., and Dallas, Tex. This contract provided that the applicant might omit service between Dallas and Fort Worth until such time as the Postmaster General required performance of such service. By order of the Postmaster General dated February 28, 1935, effective March 4, 1935, Tyler, Tex., was included as a stop on this route. Mail service to Fort Worth, Tex., was required by similar order dated March 5, 1938, effective March 15, 1938. No other changes were made in authorizations prior to August 22, 1938.

We find that from May 14, 1938, until August 22, 1938, the effective date of section 401 of the Act, the applicant was an air carrier continuously operating as such, except as to interruptions of service over which it had no control, and that it was authorized by the Postmaster General prior to August 22, 1938, within the meaning of Section 401(e)(1)(B) of the Act, to engage in the transportation of mail between the terminal point Charleston, S. C., the intermediate points Columbia, S. C., Augusta and Atlanta, Ga., Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., Tyler and Dallas, Tex., and the terminal point Fort Worth, Tex.

The applicant is, therefore, entitled to a certificate of public convenience and necessity authorizing it to engage in air transportation with respect to mail, passengers, and property between the terminal and intermediate points named in the preceding paragraph.

An appropriate order will be entered.

The following members of the Authority concur in the above opinion:

/s/ Edward J. Noble,
Harllee Branch,
Robert H. Hinckley,
Oswald Ryan,
G. Grant Mason, Jr.

Orders
Serial Number 5

The United States of America
Civil Aeronautics Authority
Washington, D. C.

At a Session of the Civil Aeronautics Authority
held in the City of Washington, D. C., on
the 25th day of February, 1939.

In the Matter of the Application of Delta Air Corporation For a certificate of public convenience and necessity under section 401(e)(1) of the Civil Aeronautics Act of 1938.	Docket No. 8-401-E-1

Order Authorizing Issuance of Certificate

Delta Air Corporation having filed application for a certificate of public convenience and necessity under section 401(e)(1) of the Civil Aeronautics

Act of 1938, and a full hearing thereon having been held, and the Authority upon consideration of the record of such proceedings having issued its opinion containing its findings, conclusions, and decisions, which is attached hereto and made a part hereof, and finding that its action in this matter is necessary pursuant to said opinion:

IT IS HEREBY ORDERED that there be issued to Delta Air Corporation a certificate of public convenience and necessity authorizing it, subject to the provisions of such certificate, to engage in air transportation with respect to persons, property, and mail between the terminal point Charleston, S. C., the intermediate points Columbia, S. C., Augusta, Ga., Atlanta, Ga., Birmingham, Ala., Meridian, Miss., Jackson, Miss., Monroe, La., Shreveport, La., Tyler, Tex., and Dallas, Tex., and the terminal point Fort Worth, Tex.

IT IS FURTHER ORDERED that said certificate shall be subject to the terms, conditions, and limitations prescribed by Regulation 401-F-1 issued by the Authority on February 24, 1939, all amendments thereto, and such other terms, conditions, and limitations as may from time to time be prescribed by the Authority.

IT IS FURTHER ORDERED that said certificate shall be issued in the form attached hereto and shall be signed on behalf of the Authority by the Chairman of the Authority and shall have affixed thereto the seal of the Authority attested by the Secretary. Said certificate shall be made effective from the 22d day of August, 1938.

By the Authority:

PAUL J. FRIZZELL,
Secretary.

(SEAL)

THE UNITED STATES OF AMERICA
CIVIL AERONAUTICS AUTHORITY
WASHINGTON, D. C.

Certificate of Public Convenience and Necessity

Delta Air Corporation

is hereby authorized, subject to the provisions hereinafter set forth, the provisions of Title IV of the Civil Aeronautics Act of 1938, and the orders, rules, and regulations issued thereunder, to engage in air transportation with respect to persons, property, and mail as follows:

> Between the terminal point Charleston, S. C., the intermediate points Columbia, S. C., Augusta, Ga., Atlanta, Ga., Birmingham, Ala., Meridian, Miss., Jackson, Miss., Monroe, La., Shreveport, La., Tyler, Tex., and Dallas, Tex., and the terminal point Fort Worth, Tex.

to be known as Route No. 24.

The holder shall render service to and from each of the points named herein, except as temporary suspensions of service may be authorized by the Authority, and may (1) begin or terminate or begin and terminate trips at points short of terminal points; (2) continue to serve regularly any point named herein through the airport last regularly used by the holder to serve such point prior to the date of issuance of this certificate; and (3) continue to maintain regularly scheduled non-stop service between any two points not consecutively named herein if non-stop service was regularly scheduled by the holder between such points on August 22, 1938, and on the date of issuance of this certificate. In addition to the service hereinabove expressly prescribed, the holder may regularly serve any point named herein through

any other airport convenient thereto and may render any other scheduled non-stop service between any two points not consecutively named herein, if and only if such holder complies with such procedure relating thereto as may be prescribed by the Authority.

The exercise of the privileges granted by this certificate shall be subject to such reasonable terms, conditions, and limitations required by the public interest as may from time to time be prescribed by the Authority.

This certificate shall be effective from the 22d day of August, 1938.

IN WITNESS WHEREOF, The Civil Aeronautics Authority has caused this certificate to be executed by its Chairman and the seal of the Authority to be affixed hereto, attested by the Secretary of the Authority on this the 25th day of February, 1939.

/s/ HARLLEE BRANCH,
Vice Chairman and
Acting Chairman.

(SEAL)
Attest: /s/ PAUL J. FRIZZELL,
Secretary.

CIVIL AERONAUTICS AUTHORITY: REGULATION CONCERNING TERMS OF "GRANDFATHER" CERTIFICATES

At a session of the Civil Aeronautics Authority
held at its office in Washington, D. C., on
the 24th day of February, 1939.

Acting pursuant to the authority vested in it by the Civil Aeronautics Act of 1938, particularly sections 205(a) and 401(f) thereof, and finding that its action is necessary and appropriate to carry out the provisions of the Act, and is required by the public interest, the Civil Aeronautics Authority hereby makes and promulgates the following regulation:

Regulation 401-F-1: Terms, Conditions and Limitations of Certificates of Public Convenience and Necessity Issued Under Section 401 (e) (1) of the Act

Unless the order authorizing the issuance of a particular certificate shall otherwise provide, there shall be attached to the exercise of the privileges granted by each certificate of public convenience and necessity issued pursuant to section 401 (e) (1) of the Civil Aeronautics Act of 1938, the terms, conditions and limitations hereinafter set forth, and such other terms, conditions and limitations as may from time to time be prescribed by the Authortiy.

I.

If at any time the holder of the certificate desires to render a scheduled non-stop service between any two points not consecutively named in the certificate, and if non-stop service between such points is not then regularly scheduled by such holder, such holder shall file with the Authority written notice of its intention to inaugurate such service. Such notice shall be filed at least twenty days prior to inaugurating such service, shall be conspicuously entitled "Notice of Non-Stop Service" and shall fully describe such service. At the time such notice is filed with the Authority a copy thereof shall be served by such holder upon the Postmaster General and upon such other persons as the Authority may require: *Provided,* That subject to the provisions of section 405(e) of the Act, non-stop service may be inaugurated

between any two points at any time without the filing of the notice herein prescribed if, during the twelve months preceding such inauguration, non-stop service was regularly scheduled by such holder between such points during a period of at least forty-five days.

Such non-stop service may be inaugurated upon the expiration of twenty days after the filing of such notice unless (1) the Authority notifies such holder within said twenty-day period that a direct straight-line course between the points between which such service is to be operated appears to involve a substantial departure from the shortest course between such points as determined by the route described in the certificate, in which event such service shall not be inaugurated unless and until the Authority finds, upon application of the holder and after notice and public hearing, that the public interest would not be adversely affected by such service on account of such substantial departure; or (2) such service involves a schedule designated for the transportation of mail and the inauguration of such service on such date would be prohibited pursuant to the provisions of section 405(e) of the Act, in which event the inauguration of such service shall be subject to said section.

The Authority may, subject to the provisions of section 405(e) of the Act, permit non-stop service to be inaugurated at any time after the filing of the "Notice of Non-Stop Service" herein prescribed whenever the circumstances warrant such action.

If any non-stop service regularly scheduled by the holder on the date of issuance of the certificate was not regularly scheduled by the holder on August 22, 1938, and if the holder files a "Notice of Non-Stop Service" with respect to such service with the Authority within thirty days after such date of issuance, the holder may, subject to the provisions of section 405(e) of the Act, continue to render such service: *Provided,* That if a direct straight-line course between the points between which such service is operated appears to involve a substantial departure from the shortest course between such points as determined by the route described in the certificate, and if the Authority shall, after notice and public hearing instituted within ninety days after such date of issuance, find that the public interest would be adversely affected by such service on account of such substantial departure, such service shall thereupon be discontinued: *Provided further,* That subject to the provisions of section 405(e) of the Act, non-stop service may be continued between any two points without the filing of the notice herein prescribed if, during the twelve months preceding the date of issuance of the certificate, non-step service was regularly scheduled by the holder of the certificate between such points during a period of at least forty-five days.

II.

If the holder of the certificate desires to serve regularly a point through any airport not then regularly used by such holder, such holder shall file with the Authority written notice of its intention so to do. Such notice shall be filed at least thirty days prior to inaugurating the use of such airport. Such notice shall be conspicuously entitled "Notice of Airport Change," shall clearly describe such airport and its location, and shall state the reasons the holder deems the use of such airport to be desirable. At the time such notice is filed with the Authority, a copy thereof shall be served by the holder upon

the Postmaster General and upon such other persons as the Authority may require.

The use of any such airport may be inaugurated upon the expiration of thirty days after the filing of such notice, unless within said thirty-day period the Authority shall serve upon the holder an order directing such holder to show cause why such use should not be disapproved: *Provided,* That the Authority may permit the use of any airpport prior to the expiration of such thirty-day period whenever the circumstances warrant such action. Upon service of such order, such use shall not thereafter be inaugurated, except as may be expressly permitted by such order, unless and until the Authority finds, after notice and public hearing, that the public interest would not be adversely affected by such use.

In no event, however, shall the holder use the provisions of this Article as authority to receive regularly passengers or property at one airport and discharge the same at any other airport serving the same point.

III.

It shall be a condition upon the holding of the certificate that any intentional contravention in fact by the holder of the terms of Title IV of the Act or of the orders, rules, or regulations issued thereunder or of the terms, conditions, and limitations attached to the exercise of the privileges granted by the certificate, even though occurring without the territorial limits of the United States, shall, except to the extent that such contravention in fact shall be necessitated by an obligation, duty, or liability imposed by a foreign country, be a failure to comply with the terms, conditions, and limitations of the certificate within the meaning of section 401(h) of the Act.

By the Authority:
PAUL J. FRIZZELL,
Secretary.

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKET NO. 35

Boston-Maine Airways, Incorporated, Base Rate Mileage

Submitted July 29, 1938. *Decided September 6, 1938.*

1. Order of March 11, 1935, in *Air Mail Compensation,* 206 I. C. C. 675, does not establish rates for the carriage of air mail by airplane over extensions of air-mail route 27.
2. Fair and reasonable rates on air-mail route 27 as extended, determined and published.

Karl A. Crowley, Walter E. Kelly, and *William C. O'Brien* for Postmaster General.

W. A. Cole for carrier.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS MCMANAMY, MAHAFFIE, AND MILLER

BY DIVISION 3:

Exceptions were filed by the Postmaster General to the report proposed by the examiner and a reply was filed by the complainant. The Postmaster

General also requested oral argument before the Commission but later withdrew that request.

The Civil Aeronautics Act of 1938, approved June 23, 1938, repeals the Air Mail Act of 1934, excepting certain provisions, but further provides that proceedings pending before the Interstate Commerce Commission for the determination of rates for the transportation of air mail by aircraft on the date of the enactment of the Civil Aeronautics Act of 1938 "shall be continued, orders therein issued, appeals therefrom taken, and payments made by the Postmaster General pursuant to such orders, as if this Act had not been enacted."

By complaint filed December 2, 1937, Boston-Maine Airways, Incorporated, a contractor, by succession in interest, for the transportation of air mail by airplane under the Air Mail Act of 1934, as amended, over air-mail route 27, alleges that extensions to that route approved by the Postmaster General have so increased its length that the base mileage named for the route in *Air Mail Compensation,* 206 I. C. C. 675, 725, is no longer substantially the monthly equivalent of one daily round trip over the entire route. Complainant also alleges that, in consequence of such increase in the length of the route and the resulting increase in the mileage flown, the rate of compensation received, due to the manner of application of the scale by the Postmaster General, is no longer adequate. An increase of the base mileage named in *Air Mail Compensation, supra,* to be made effective as of August 1, 1937, is sought.

In his answer the Postmaster General opposed the prayer of the complaint and particularly that part which seeks the retroactive application of any relief granted. After due notice, hearing has been held at which complainant and the Postmaster General appeared. The former presented evidence.

Complainant is the successor to National Airways, Incorporated, and, with the approval of the Postmaster General, the contract for transportation of air mail, and the service connected therewith, held by the latter company, as the original contractor under the Air Mail Act of 1934, was transferred to complainant, effective March 1, 1937.

Route 27 is V shaped, extending, at the time of the decision cited, from Boston, Mass. to Bangor Maine, and from Boston to Burlington, Vt., a total distance of about 400 miles. In publishing the rate for this route along with others then under consideration, the Commission fixed 33⅓ cents as reasonable to apply to a base of 24,000 airplane-miles which was substantially the monthly equivalent of one daily round trip over the entire route. The air-mail rates fixed in *Air Mail Compensation, supra,* are subject to the following proviso, as amended in 222 I. C. C. 602, 608:

> The base named for each route shall be used only for the mileage named for that base and shall be (1) progressively decreased 1 cent upon each increase in the number of airplane miles actually flown with mail each month which equals 10 per cent of the mileage named for that base * * * *Provided,* That where the mileage named in the table is substantially the monthly equivalent of one daily round trip over the entire route, the base named for that mileage shall not be decreased until the miles actually flown with mail each month equal 180 per cent of the mileage named, but shall, after the miles actually flown with mail each month equal 180 per cent of the mileage named, be decreased, as herein provided, upon each increase of 10 per cent in the mileage named over 180 per cent of the mileage named.

Since that decision, remeasurement of the route, or the designation of additional way stations not in direct air line between previously existing sta-

tions, have increased the length of original route to a maximum of approximately 409 miles, and from time to time the route has been seasonally extended 33 miles from Bangor to Bar Harbor, Maine, but this extension is no longer authorized.

Effective August 4, 1937, the route was extended from Bangor to Caribou, with intermediate stops at Millinocket, Houlton, and Presque Isle, all in Maine, a distance of 168 miles. On August 10, 1937, it was extended an additional 74 miles from Burlington to Montreal, Canada. Thus the route is increased in length from slightly over 400 miles to a maximum of approximately 650 miles, and the monthly equivalent of one daily round trip from approximately 24,000 airplane-miles to from 38,500 to 40,000, depending upon the method and time of computation. One daily round trip monthly over the entire route, therefore, has become more than 160 per cent of the base mileage named by the Commission. Until these route extensions became effective there was no authorized increase in the amount of airplane-miles flown by the carrier great enough to cause the rate to vary from the base named. However, in addition to the increase in the mail-pay mileage resulting from the increase in the length of the route, some service additional to the single round trip originally authorized has been approved. For example, on February 15, 1938, service over the extended route was authorized, which, on basis of 100 per cent performance, would, for the following month, have amounted to about 66,844 miles. This would have been about 166 per cent of the "equivalent of one daily round trip over the entire route" as it existed during that month. But it would also have been nearly 280 per cent of the 24,000 miles originally named by the Commission as the "monthly equivalent of one daily round trip over the entire route." While the record does not show the actual mail mileage flown during March, 1938, it does show that prior thereto complainant flew over 200 per cent of 24,000 miles in one month, and the application of the provisions of the scale caused a decrease of 2 cents per airplane-mile in the rate paid, although the mileage flown was less than 120 per cent of the monthly equivalent of one daily round trip over the extended route. During no month has the authorized mileage been the equivalent of 180 per cent of one daily round trip over the route as extended, although on two occasions it has exceeded that percentage of 24,000 miles in amounts sufficient to cause a reduction of the rate when the proviso to the scale was applied to that mileage by the Postmaster General.

The carrier protested such compensation, and, in consequence, the Postmaster General, on November 4, 1937, brought the matter to the attention of the comptroller general, with a request that he rule upon the applicable rate under the scale and the proviso thereto. In responding, the comptroller general states:

> The question which you present appears to be one primarily for the consideration of the Interstate Commerce Commission in fixing and adjusting rates and base mileage for air mail routes under the act of August 14, 1935, 49 Stat. 614, and of your Department in extending the mileage on said routes as authorized by said act. Insofar as concerns the particular route referred to * * *, it appears that the computation of the mail pay is in accordance with existing orders of the Interstate Commerce Commission. In such circumstances no action by this office appears required at this time.

Authority for the extension of the route exists under section 3 (c) of the act as amended.[1] Authority of a similar nature was also contained in the original act. Under this provision the rate of compensation payable on the extension of any route "shall not be in excess of the rate per mile fixed for the service thus extended." There is also authority under the act[2] for agreements for lesser rates for the carriage of air mail over all or a part of an air-mail route under specified circumstances. But, without assuming such agreements to be permitted thereby under the conditions of this case, it is stated that there has been no such agreement with respect to such special rates on any schedule on this route.

Climatic and other conditions affecting this route are described in the report, supra, at page 743. Both extensions here are to the north and offer no escape from the climatic conditions there described. As extended there are 16 stations, including termini, on the route, one of which is temporarily in disuse.

The record includes monthly and annual reports of the carrier and its predecessor showing statistical and financial data pertaining to operation on the route. Analysis of these shows that as the mileage flown on the route has increased the cost of operation also has increased. The average operating expense for corresponding periods, August to January, in 1936-37 and 1937-38, shows the cost of operation in the former period, before the extension of the route, to have been about 44.5 cents per airplane-mile flown, and in the latter period, after the route was extended, 50 cents. At the time of the transfer of the air-mail contract, occurring between these periods, the previous operating agreement between the air line and its affiliated railroads, under which the latter bore a considerable part of the expense of operation as described in *National Airways, Inc., Rate Review, 1934-1936,* 226 I. C. C. 409, was abrogated, so that during the latter period, although a part of the personnel of the air line was paid by the railroads, much of the expense formerly borne by them had become air-line expense. This accounts for a part of the difference in expense shown above. A part is also due to an increase in direct aircraft operating expense which averaged 22 and 26 cents per airplane-mile, respectively, during the two periods.

The *National Airways, Inc., Rate Review, supra,* shows that, notwithstanding complainant received, from the lease of space in its airplanes, sums substantially in excess of the amount paid for transportation by actual users thereof, and at the same time was, under the arrangement then existing with its affiliated railroads, benefited by the payment of a considerable part of the operating expenses customarily paid by air-transport companies, it received only a moderate profit from its total operations. As there shown, most of that profit was earned in activities other than the transportation of air mail. The record herein shows that for the fiscal year ended June 30,

1. Section 3 (c) of the Air Mail Act of 1934, as amended, provides: "If, in the opinion the Postmaster General, the public interest requires it, he may grant extensions of any route: Provided, That the aggregate mileage of all such extensions on any route in effect at one time shall not exceed two hundred and fifty miles, and that the rate of pay for such extensions shall not be in excess of the rate per mile fixed for the service thus extended."

2. Section 3 (f) of the act provided, inter alia, that the Postmaster General "may, under such regulations as he may prescribe, authorize and, notwithstanding any other provisions of this Act, compensate for a special schedule or an extra or emergency trip in addition to any regular schedule over air-mail routes or portions thereof at the same mileage rate paid for regular schedules on the contract route or routes, or at a lesser rate if agreed to by the contractor and the Postmaster General."

1937, when incidental revenues totaled over $16,000, complainant and its predecessor together earned a net income from operations of about $6,400. In *National Airways, Inc., Rate Review, supra,* it appeared that nearly one-half the total revenue from such incidental services became net income. No scheduled exclusively passenger service appears to have been maintained prior to June 30, 1937. Subsequent to that date and up to January 31, 1938, the carrier did no better, the record showing that notwithstanding net incidental revenues of more than $4,000 in that period it sustained a deficit in net income from operations of over $5,600. Exclusion of losses which may have been sustained from the minor amount of exclusively passenger mileage said to have been flown, less than 4 per cent of the total mileage, would not materially affect the result. There is therefore, no indicated reason for a modification of the maximum rate of compensation heretofore published for transportation of air mail by airplane on this route.

Conclusions.—This proceeding arises by reason of the change in the compensation paid complainant for the transportation of air mail subsequent to the extensions of the route covered by the original contract. Under section 6 (c) of the act such compensation is paid "at the rate fixed by order of the Commission." It thus becomes necessary to determine at the outset whether the additional mileage occasioned by the extensions was properly included in determining the rate payable or, in other words, whether the rate paid was that "fixed by order of the Commission."

The power to fix and determine fair and reasonable rates is legislative in character. *Minnesota Rate Cases,* 230 U. S. 352. When such rates are determined and fixed by order, the order, where uncertain, may be clarified by reference to the report filed with it, and made a part thereof. *American Exp. Co.* v. *Caldwell,* 244 U. S. 617. Although the report in *Air Mail Compensation, supra,* makes reference to section 3 (c) of the act authorizing extensions of routes, neither the order nor the report in that case show that any consideration was given to the determination of rates for extensions. On the contrary, the report clearly shows that in considering the nature of its function under section 6 (a) the Commission said that it was dealing with the Postmaster General's route pattern then existing. As stated on page 695 of the report:

> We could not reasonably hope, or be expected, to fix rates which would satisfactorily and adequately meet every prospective change in the designation of routes, in the letting of contracts, or the prescription of service requirements which the Post Office Department may find desirable or essential. Indeed, it is not conceivable that either the department or we can foresee every contingency likely to arise * * *.
>
> The term "route" as used in paragraph 6(a) unquestionably covers the *present contract routes* and, under all the circumstances, we shall in this proceeding fix rates *only* for those routes. When major changes in routing and service occur, the rates can and should be reviewed and revised as the statute clearly contemplates. [Italics supplied.]

While it is true that the rates provided were designed to change as service fluctuated, the report further shows that the fluctuations in service contemplated were those resulting from additional service between the same termini. At page 715 of the report, the Commission said:

> An increase or reduction in the number of air-mail schedules on a given route results in an increase or reduction in the number of airplane-mail miles flown per month, and, consequently, in the compensation paid to the con-

tractor. The parties agree that the unit cost of service to the contractors bears a direct relation to *the number of air-mail schedules* authorized to be flown over the route. [Italics supplied.]

In that connection, by note, it referred to the testimony as follows:

The witness for the Post Office Department testified: "Unquestionably, in my opinion, *there should be a differential between schedules in that respect (the advisability of basing rates on the number of schedules operated).*" [Italics supplied.]

Any doubt in that respect there may be is entirely dispelled by a consideration of the conclusions on page 723 of the report as follows:

* * * If possible * * * a reasonable rate should be so made as to reflect the equitable adjustment therein necessary to maintain that relation between service actually performed and the charges therefor which will be reasonable to those rendering and those receiving the service. It is believed that such result can be accomplished here by establishing rates on a basis which will automatically change those rates to correspond to changes in the service. * * *

It is recognized that the variations in service *here considered* may arise from one or more of several causes. The airplane miles flown with mail may be increased by reason of the use in mail service of *existing schedules* not theretofore used for transporting the mail, or because of the establishment of entirely *new schedules;* it may decrease because *existing mail schedules* are discontinued. * * * the rates hereinafter fixed to yield reasonable compensation for all service which may be performed *under the contracts* have been designed to give effect, as fairly as possible on this record, to all changes which may occur. [Italics supplied.]

If it were not obvious from this language that substantial modifications of route mileage, such as is here involved, were not in contemplation, reasonable doubt is dissipated by the fact that 33 established routes in existence when that decision was rendered had a combined length of 28,794 miles, while under section 3 (f) of the act the Postmaster General was limited to an aggregate of 29,000 miles for all routes and extensions thereof. Some minor variation in the route mileage might have been expected, but no substantial change was predictable.

The Postmaster General contends that there is present in the report language which warrants the construction which he has placed upon the scale, namely, that the rate fixed by the Commission were intended to apply to airplane-miles flown with mail on extensions of routes. We find no such intent from the language on which he relies. He also relies upon our decision in *National Parks Airways, Inc., Base Rate Mileage,* 220 I. C. C. 149, in which, when construing the scale and ascertaining the applicable rate, we included certain increased mileage due to a revision of the length of the route. We did not regard that revision as an extension of the route, as the mileage involved was small and the termini of the route both before and after the revision remained the same.

It is thus apparent that the order in *Air Mail Compensation, supra,* does not in itself, or through the operation of section 6(c) of the act, provide a rate of compensation for extensions of routes, and that the mileage over such extensions cannot be taken into consideration in determining the rate under that order for application to the route itself.

It does not follow, of course, that there is no provision for a rate of payment for service over the extension. Such provision is specifically made by the act, section 3 (c) providing that "the rate of pay for such extension

shall not be in excess of the rate per mile fixed for the service thus extended." Moreover, it does not follow that no rate for the extension or for the route as extended may be fixed under section 6 (a) of the act. Rates for a route as covered by the contract, and for the route as subsequently extended, were fixed in *Air Mail Rates for Route No. 31,* 214 I. C. C. 387.

The service authorizations issued by the Postmaster General and contained in the record show the distance between stations and the frequency of service required to be flown. The carrier's flight performance over the route is reported as the basis for determining the compensation to be paid. It is known in detail as to each part of the route. From these data the amount of service rendered over the original portions of the route is readily ascertainable. With this knowledge it is practicable to determine the rate applicable under the published scale for the service performed on the original route, and that is the rate of compensation which the Postmaster General is directed by section 6 (c) to pay for the service performed on those portions of the route existing when the scale was published. Although the act does not specifically provide for the payment of the same rate for service over the extensions of a route as has been fixed for the original route, such rate is the maximum rate which may be paid for service over an extension, and since no other rate is provided by agreement or otherwise, it may be implied that the rate fixed for the original route is also the applicable rate on the extensions.

As to service over the original route we find that, to the extent the rates of compensation paid to the complainant for the transportation of air mail by airplane, and the service connected therewith, over route 27 were less than rates ascertained in the manner described, they were less than the rates applicable under the Commission's order.

As previously stated, there is no indication on this record that any modification of the base rate formerly determined and fixed as fair and reasonable is warranted, and the fact that "the monthly equivalent of one round trip over the entire route" is now substantially greater does not modify this conclusion. In *Air Mail Compensation, supra,* there are several routes on which the rate fixed is shown to have been equal to that for route 27, and upon which the base mileage "equivalent of one round trip over the entire route" per month is greater than that on route 27, as extended. It cannot be said, therefore, that this mileage in the circumstance of one daily round trip per month was a controlling factor in fixing the rates then published.

We find that for the future the fair and reasonable rates of compensation for the transportation of air mail by airplane, and the service connected therewith, over route 27, as now extended, will be for each airplane-mile actually flown with mail, subject to the provisions of section 3 (f) of the act, the rates determined by applying the provisions of the order of March 11, 1935, as amended by the order of June 14, 1937, in *Air Mail Compensation,* 206 I. C. C. 675 and 222 I. C. C. 602, to a base rate of 33⅓ cents per airplane-mile for a base mileage of 38,500 miles.

The findings herein are without prejudice to any rates which may be fixed by the Civil Aeronautics Authority under the provisions of the Civil Aeronautics Act of 1938 which differ materially from those of the Air Mail Act of 1934.

An appropriate order will be entered.

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKET NO. 28

Air Mail Rates for Route No. 6

Submitted July 14, 1938. *Decided September 15, 1938.*

Rates of compensation for the transportation of air mail by airplane and the service connected therewith over air mail route No. 6 not shown to be unfair and unreasonable. Petition dismissed.

Gerald B. Brophy and *George A. Spater*, for petitioner. *Walter E. Kelly* and *William C. O'Brien* for Postmaster General.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS MCMANAMY, MAHAFFIE, AND MILLER

BY DIVISION 3:

Subsequent to the service of the report proposed by the examiner, the air mail contract for route No. 6 was transferred by North American Aviation, Inc., to Eastern Air Lines, Inc. (new company), with the approval of the Postmaster General. Exceptions to the report were filed by the new company, the Postmaster General filed reply, and the case was orally argued before us.

The Civil Aeronautics Act of 1938, approved June 23, 1938, repeals the Air Mail Act of 1934 (excepting certain provisions), but further provides that proceedings pending before the Interstate Commerce Commission for the determination of rates for the transportation of air mail by aircraft on the date of the enactment of the Civil Aeronautics Act of 1938 "shall be continued, orders therein issued, appeals therefrom taken, and payments made by the Postmaster General pursuant to such orders, as if this Act had not been enacted."

North American Aviation, Inc., by petition filed August 30, 1937, sought an increase, effective July 16, 1937, in the base mileage for air mail route No. 6 as determined and published in *Air Mail Compensation* 206 I. C. C. 675. The Postmaster General filed answer denying the necessity for the relief sought, and denying our authority to fix and determine a reasonable rate from the date of filing the petition or from any date other than one subsequent to the date of the order herein and asking us to make a further examination and audit of the books, records, and accounts of the carrier before assignment of the petition for hearing. At the opening of the hearing counsel for the Postmaster General sought a continuance upon the ground that an audit of the books, accounts and business records of petitioner by us and a report of such audit to the Postmaster General was required by law before a hearing could be held. This motion was denied, *Air Mail Rates for Route No. 31*, 214 I. C. C. 387, *Air Mail Rates for Route No. 24*, 222 I. C. C. 749, and he then moved to have the proceeding limited to a consideration of rates for the future. This motion also was denied.

Air mail route No. 6 extends from Newark, N. J., to Miami, Fla., with intermediate stops at Philadelphia, Pa., Baltimore, Md., Washington, D. C., Richmond, Va., Raleigh, N. C., Charleston, S. C., and Jacksonville, Daytona Beach, Vero Beach, and West Palm Beach, Fla. In *Air Mail Com-*

pensation, supra, base rates of compensation were fixed for the transportation of monthly average mail loads of 300 pounds, or less, over all domestic air mail routes then in operation, with the base rate for each route applicable only to the mileage named therefor. The rate for route No. 6 was fixed at 26 cents per airplane mile for a base of 145,000 miles per month. Provision was made for progressive increase or decrease of 1 cent in the base rate for each 10 per cent decrease or increase, respectively, in the mileage flown. For average mail loads in excess of 300 pounds all rates were made subject to the increases[1] provided in the act.

During the period under consideration in *Air Mail Compensation, supra,* two round trips daily in mail-pay service between Newark and Miami were authorized on route No. 6. Since that time and until July 16, 1937, the mileage authorized in mail-pay service each month has approximated 145,000 airplane miles, the base mileage named for the route. As a result, the unit rate for the transportation of mail loads of 300 pounds or less has been 26 cents per airplane mile, the base rate named. Frequently, however, due to average mail loads in excess of 300 pounds, compensation has been at rates ranging from 28.6 to 37.8 cents per airplane mile.

Effective July 16, 1937, the Postmaster General authorized an additional daily round trip in mail-pay service between Jacksonville and Miami, thus adding approximately 20,600 airplane miles to the monthly total authorized. As a result, the rate per airplane mile for the transportation of mail loads of 300 pounds or less over the entire route has been reduced automatically by the operation of the proviso in the order in *Air-Mail Compensation, supra,* from 26 cents to 25 cents per airplane mile. In addition, the increase in the number of miles flown has reduced the average monthly loads per mile upon which compensation is based.

The petition alleges that the rate as thus reduced is not fair and reasonable and seeks an increase in the base mileage to which the base rate of 26 cents shall be applicable, such increase to be made effective as of the effective date of the service order authorizing the additional mail-pay schedule. Thus, although the prayer for relief is directed toward a change in base mileage only, the petition questions the sufficiency of the rate in force and is, in effect, an application under section 6 of the act for a reexamination of the fair and reasonable rate for route No. 6.

Corporate history. North American Aviation, Inc., was incorporated on December 6, 1928, under the laws of Delaware and in 1929 purchased the entire capital stock of Pitcairn Aviation, Inc., operator of two air mail routes, one extending from Newark to Atlanta, Ga., and the other from Atlanta to Miami. This subsidiary, the name of which was changed in 1930 to Eastern Air Transport, Inc., subsequently purchased the assets of Ludington Air Lines, operator of a passenger service between Washington and Newark. Following the cancellation of air-mail contracts in February, 1934, and the publication of advertisements for temporary service, Eastern Air Lines, Inc. (old company), a wholly owned subsidiary of North American Aviation, Inc., organized in April, 1934, for the purpose of submitting bids in response to the advertisements for temporary service, was the successful bidder on air-mail routes Nos. 5, 6, and 10.

In accordance with a plan of reorganization adopted as of November 30, 1934, North American Aviation, Inc., disposed of its stock interests in other

1. One tenth of the base for each additional 100 pounds or fraction thereof.

air-mail contractors and dissolved most of its subsidiaries. It took over practically all of the assets of Eastern Air Transport, Inc., and Eastern Air Lines, Inc. (old company), including the new mail contracts, which were transferred to it as of midnight December 31, 1934. Eastern Air Lines, Inc. (old company), was later dissolved. Effective at midnight, November 30, 1936, North American also acquired, with the approval of the Postmaster General, the mail contract for air mail route No. 20, between New Orleans, La., and Houston, Texas via intermediate points.

In addition to its air-transport operations North American was engaged in the manufacture of aircraft and accessories. From January 1, 1935 to April 22, 1938, when Eastern Air Lines, Inc. (new company), acquired the four mail contracts and took over the transport operations, the two types of operation were conducted through an Eastern Air Lines Division and a Manufacturing Division, respectively. Separate records were maintained for the airline division with the interest of North American therein recorded as "head office account." All property of the airline division was transferred to Eastern Air Lines, Inc. (new company), at the time it took over the transport operations.

Investment. The asset side of the balance sheet of Eastern Air Lines Division as of September 30, 1937, shows: current and accrued assets, $643,906, including $40,495 cash; investments, $67,703; deferred debits, $356,-445; real property and equipment, $2,441,104; accrued depreciation—real property and equipment, $1,098,605; miscellaneous physical property, $91,373; and accrued depreciation—miscellaneous physical property, $27,066. The liability side shows: current and accrued liabilities, $417,662; deferred credits, $218 operating reserves, $75,338, and head office account, $1,981,644. Deferred debits include preliminary expenses amounting to $144,129 incurred by Pitcairn Aviation prior to the inauguration of operations under the original contracts and goodwill amounting to $155,866, representing the excess of the purchase price over the value of the assets received by the predecessor company in connection with the purchase of the Ludington Lines.

Many items of property reflected in the investment accounts were used interchangeably on all four routes or in various degrees in the operation of two or more routes. However, no separation of investment as between routes is shown on the books or in the reports to the Postmaster General covering the operations of the various routes. In response to a request of the examiner for the views of the parties as to a proper method for such a separation, North American submited an exhibit showing the portion of each balance sheet item as of September 30, 1937, it considered properly applicable to route No. 6. The investment in flying equipment was allocated on the basis of the proportion of the yearly mileage flown on that route to the total flown on the system and that for buildings and miscellaneous equipment at common points on the ratio of stops on route No. 6 schedules to total stops at each point. Other items, including current assets and liabilities, were, when allocations were required, prorated on various bases, viz., revenues, expenses, number of passengers, payroll, etc.

On this basis the "head office account" applicable to route No. 6 amounted to $884,116. The Postmaster General accepted the allocations as made, but excluded the items of preliminary expense and goodwill as not applicable to operations under the present contract, and arrived at an amount of $735,300 as representing that portion of the total investment of North American in its

airline division properly assignable to operations on Route No. 6. Both estimates reflected a net book value of real property and equipment applicable to that route amounting to $613,207. However, North American would add to the total amount developed by its exhibit, items of $174,520 representing additional cash and $918,420 goodwill, or going concern value, and reach a total investment assignable to route No. 6 of $1,977,056.

In connection with the latter items, North American's treasurer testified that the balance sheet of the airline division was not indicative of its cash position, as under the method of divisional financing employed, the divisions were allowed only enough cash for their immediate needs. Inasmuch as the head office stood ready at all times to make additional advances, he would consider one-half of its cash and marketable security balance, or $480,110, as fairly representing the division's cash position. He was also of the opinion that an item of $1,867,466 originally recorded as goodwill in connection with the purchase of Pitcairn Aviation but written off in 1933 should properly be considered an investment of the airline division.

Aircraft. During 1936, operations were conducted with 14 Douglas DC-2 and five Lockheed Electra planes. Two of the 10 Douglas DC-3 planes, contracted for early in 1936, were delivered in December of that year and the others were received during the following year. The Electras were sold as the new planes were acquired, and in November, 1937, five DC-2's were advertised for sale, delivery to be made at the close of the peak season, in April, 1938. Although a participant in the development of the proposed DC-4, North American had no further contracts for the purchase of additional aircraft.

Operations. The termini and intermediate stops on route No. 6 have been hereinbefore shown. Route No. 5 extends from Newark to New Orleans, La.; route No. 10 from Chicago, Ill., to Jacksonville; and route No. 20 from New Orleans to Houston, Tex. Thus route No. 6 coincides with route No. 5 between Newark and Richmond and connects with route No. 10 at Jacksonville.

In addition to the authorized mail-pay schedules, various exclusive-passenger schedules have been operated over all or portions of route No. 6, the majority of which carried mail on a weight-credit basis. During the winter season extra service is provided between Newark and Miami either by additional through schedules or extra sections on regular flights. More frequent local service between Newark and Washington and Richmond, referred to as the "Merry-go-round," has been provided throughout the year.

As of September 30, 1937, the mail-pay service on route No. 6 consisted of two round trips daily between Newark and Miami and one round trip daily except Sundays and holidays between Jacksonville and Miami. In addition, there was a daily round trip weight-credit service between the last named cities. "Merry-go-round" service included eight round trips between Newark and Washington, four and one-half of which furnished mail service on a weight-credit basis; one round trip between Newark and Richmond, and one round trip between Washington and Richmond. Both of the latter provided weight-credit service. All of these schedules were daily or daily except Saturdays, Sundays or holidays. With the exception of one round trip between Newark and Washington and a one-way trip, Richmond to Washington, the weight of the mail on all weight-credit service on the

"Merry-go-round" was credited by the Postmaster General to mail-pay trips on route No. 5.

Reports to the Postmaster General, covering operations for the 12 months' period ended October 31, 1937, show that 3,787,400 airplane miles were flown on route No. 6, of which 3,704,273 were in revenue service. Mail-passenger miles, as reported, totaled 1,810,231, but figures shown on one of North American's exhibits indicate that the reported figures for December and January were overstated by 26,839 and 33,202 miles, respectively. The testimony shows that prior to July 1, 1937, all "Merry-go-round" schedules were reported as scheduled exclusive passenger miles on route No. 6, but no separation as between weight-credit and non-mail service was shown. Since that date all schedules over the "Merry-go-round" transporting mail, the weight of which is credited to route No. 5 pay schedules, have been reported in connection with that route's operations and weight-credit and exclusive passenger mileage have been separately reported. On this basis the reports for the 4 months ended October 31, 1937, indicate that a total of 999,178 miles were flown over route No. 6, of which 646,420 were in mail pay, 167,745 in exclusive passenger, 152,792 in weight-credit, and 32,221 in non-revenue service. During the full year period the average monthly mail load ranged from 283 to 610 pounds. It exceeded 300 pounds during 9 of the 12 months.

Allocation of revenues and expenses. As hereinbefore shown, North American operated four air-mail routes and certain nonmail service. Although no separation of revenues, expenses and other income items is shown by the books, a separation as between routes was made for the purpose of reporting to the Postmaster General. However, no separation as between the expenses of mail and nonmail services was attempted.

Passenger and mail revenues were credited directly to the route on which earned. Express and excess baggage revenues were allocated on a pound-mile basis and incidental revenues according to routes or points originating the business.

Expenses were classified and distributed in general as follows: (1) direct and (2) indirect ship—distributed to the various types of planes and then prorated according to the number of miles flown on each route by each type of plane; (3) direct station—assigned directly or prorated on basis of scheduled stops; (4) traffic and advertising—prorated on basis of number of revenue passengers, except agents' commissions on ticket sales which are allocated on basis of passenger revenue on each route; (5) balance of station; and (6) ground radio and general—prorated on basis of a combination of passenger and poundage statistics.

The record shows that the per-mile expense assigned to route No. 6 has constantly exceeded that for the system as a whole, notwithstanding the fact that the mileage flown on this route approximated the combined mileages of the other routes. A consideration of the weight given to the number of revenue passengers and the number of pounds carried in the separation of traffic and advertising, ground radio, balance of station and general and administrative expenses, raises a question as to the reasonableness of the bases employed in the allocation of indirect expenses between the various routes.

Net income from operations. Although the evidence of record covers the results of operations from the inauguration of the contract service and consideration is given thereto, discussion will here be limited to the 12 months

ended October 31, 1937, the last full year of record in this proceeding. Such a period is sufficient to reflect seasonal variations in traffic and in this instance more nearly reflects present-day operating conditions.

The reported net income from operations on route No. 6 for the 12 months' period was $53,649. Revising that amount to reflect a reduction of $2,403 in the recorded mail revenue and reductions aggregating $49,047 in recorded expenses, of which $26,887 represents the excess of accruals to the reserves for overhaul of planes and engines over the costs charged thereto, and $22,159 represents an adjustment of alleged overaccruals to the reserve for obsolescence and depreciation of inventories, the Postmaster General arrived at an adjusted net income from operations of $100,293. Agreeing to the revenue adjustment and to reductions in the recorded operating expenses to reflect adjustments in the reserve accruals aggregating $23,884, North American developed an adjusted net income from operations for the period of $75,130.

Its treasurer explained that the accrual method of providing for future overhauls was used, and admitted that based on past experience approximately $32,000 of the amount accrued during the period here involved would be reversed later. The balance then remaining in the reserve account would, in his opinion, be both reasonable and necessary under the accrual method of accounting. On this basis he would reduce expenses on route No. 6 as recorded by $15,833.

On January 1, 1935, when North American took over the contract operations, the balance in the material and supplies account was $176,933, against which a reserve for obsolescence and depreciation amounting to $92,351 was recorded. As of October 31, 1937, the inventory totaled $342,537 and the balance in the reserve was $173,918. A witness for the Postmaster General testified that the amount in the reserve as of January 1, 1935, was in his opinion sufficient to cover obsolescence and depreciation on the inventory as of October 31, 1937. On that basis $81,567, representing excess of accruals over losses charged against the reserve during the intervening period, was treated as a credit to operating expenses in the Postmaster General's exhibit. North American's treasurer testified that the balance in this reserve would be reduced to $130,524 as of December 31, 1937, and that in his opinion the proper credit to operations would be $43,394 instead of $81,567. The adjustments in the recorded expenses as sought by the parties represent the portion of the respective credits allocable to route No. 6 for the period under discussion.

The treasurer also pointed to the absence of any provision for Federal income and undistributed profits taxes. He testified that computed on the basis of a $75,000 income and the theory that route No. 6 operations constitute a separate entity for tax purposes such taxes would amount to approximately $23,000.

Depreciation. North American revised its depreciation rates with respect to aircraft and engines from time to time. During the year ended October 31, 1937, operations were conducted with Lockheed and Douglas aircraft and depreciation thereon was charged to operations at the rate of 33⅓ and 25 per cent per annum, respectively. These rates were applied to the cost of each plane, but the monthly charge is to be discontinued when a net book value of $5,000 is reached. The effect of this method is to write off the depreciable value of a Lockheed in 32 months, a Douglas DC-2 in 44 months

and a Douglas DC-3 in 45 months. Engines used in Lockheed and Douglas planes were depreciated at flat rates, without allowance for salvage, based on estimated service lives of 2,500 and 3,500 hours, respectively. Many were continued in service after being fully depreciated. During 1937 engines used in the DC-2's were converted to a new type at an average cost of $3,536. Subsequent depreciation charges were based on net book value after conversion and an estimated service life of 2,000 hours. As of July 1, 1937, the policy of discontinuing depreciation charges on engines when a residual value of $500 was reached was adopted.

A witness for the Postmaster General testified that the accepted accounting practice is to deduct the estimated residual value from cost and depreciate the remainder over the estimated service life of the asset. Had this method been followed, aircraft depreciation would have been approximately $25,000 less during the year ended October 31, 1937. In addition, it appears that operations were charged with more than reasonable amounts for depreciation of engines due to the failure to allow for a residual value and to estimate properly the service life. However, this result was partially off-set, so far as the period under discussion is concerned, by the use of certain units after depreciation charges thereon had ceased. Furthermore, the major portion of the profits realized from the sale of Lockheed planes and Whirlwind engines, which were credited to operating expense, during July, August, and September, 1937, should, under our decision in *Air Mail Rates for Route No. 24,* 222 I. C. C. 749, be considered as pertaining to the period prior to the year here under discussion. Thus, although the record indicates that certain adjustments should be made in the depreciation charges relating to aircraft and engines, it appears that no revision of the operating results for the year ended October 31, 1937, would result therefrom, as the adjustments if made would to a large extent be compensating.

"Merry-go-round" service. During the hearing it developed that the results of operations for the year ended October 31, 1937, both as reported and as adjusted, reflected an inconsistent treatment of the results of the local or "Merry-go-round" service between Newark and Washington and Richmond. As heretofore stated, prior to July 1, 1937, all such schedules were so reported and accounted for. Subsequently those trips furnishing weight-credit service, where the weights of mail were credited to mail pay trips on route No. 5, were reported and accounted for as on that route. Contending that all "Merry-go-round" schedules were inaugurated and have since been operated as route No. 6 service and that the method of reporting therefor since July 1, 1937, was necessitated by a revision of the form furnished by the Postmaster General for making such reports, North American sought to have the results of its operations for the four months ended October 31, 1937, as reported, adjusted so as to include the results of the operation of the weight-credit trips as a part of the operations of route No. 6. Such results are estimated by it on the basis of a proportion of all expenses to have been a net loss of $45,144. However, the Postmaster General would correct the inconsistency by eliminating the results of the operation of the schedules in question from the operations of route No. 6 during the preceding 8 months. Using the average monthly loss as disclosed by North American's estimate, this would increase the income on route No. 6 by approximately $11,000 per month.

To support his contention that these schedules are properly to be considered route No. 5 service, the Postmaster General relies mainly on the acceptance by the contractor without protest of service orders and payment of compensation therefor upon such a designation. The latter, however, contended that the designation of routes was not material so long as it was allowed to report and account for the schedules as route No. 6 service. Testimony as to its informal complaints to the Postmaster General concerning this service subsequent to July 1, 1937, is conflicting.

Under the provisions of the act requiring that rates be fixed for the transportation of mail and the service connected therewith over each airmail route, and over each section thereof covered by a separate contract, it is necessary to determine to what route operations conducted over overlapping portions of two or more routes are to be assigned. In the absence of contrary provisions in the contracts, it would appear that decision of the routes to which exclusive passenger schedules operated under such conditions are assigned is a matter of managerial discretion not controlled by law. However, to eliminate the possibility of any assignment which might defeat the purposes of the act, a carrier's exercise of such discretion should be examined in the light of its reasonableness.

A witness for North American testified that the chief reason for considering "Merry-go-round" service to be a part of route No. 6 operations was the particular traffic conditions arising in connection with the contract operations over that route. Unlike most other domestic routes which enjoy an eight months' peak of passenger traffic during the good flying period of the year, route No. 6 has a three months' peak during the winter or poorest flying season. The witness stated that it was for the purpose of keeping properly trained personnel and efficient equipment available for the peak traffic period that the frequent service between Newark and Washington was inaugurated and maintained. Route No. 5, on the other hand, is said to provide a normal traffic flow. Furthermore, it was pointed out that mail-pay trips on route No. 5 stop at all points common to both routes, while those on route No. 6 stop only at Washington, because of the size of equipment and necessity for making connections at termini. Because mail service to Camden and Baltimore on route No. 6 is required by contract, the majority of the "Merry-go-round" flights are stopped at these points to supply this service on a weight-credit basis. Furthermore, it was an order of the Postmaster General requiring route No. 6 service to Richmond that caused the extension to that city of certain of the "Merry-go-round" schedules, theretofore terminating at Washington, although at that time service to Richmond was provided by the regular mail-pay schedules on route No. 5. A review of the mail service furnished by the "Merry-go-round" weight-credit schedules from the standpoint of connections, congestion relief, necessity to fulfill contract requirements and convenience, indicates that this service is an adjunct to route No. 6 operations, rather than to those of route No. 5. Thus for the purposes of this proceeding the entire "Merry-go-round" service will be considered a part of route No. 6 operations.

Increased expenses. In addition to the results of operations through October, 1937, hereinbefore discussed, North American introduced evidence indicating that increases in certain expense items, effective subsequent to that date, would necessitate an increase in the cost of future operations. As shown by its exhibit, the anticipated increase in 1938, as compared with

1937 costs, is $336,601, of which $173,153 is allocated to route No. 6. The employment of additioanl personnel, increased compensation for captains and pilots, as required by the terms of the air-mail contracts, and numerous increases in individual salaries will, it is alleged, result in an addition of $90,904 to the annual payroll. The operation of Douglas DC-3 aircraft will result in additional depreciation expense of $90,900. The other increases indicated by applicant's exhibit are: social security taxes, $19,077; rental at Washington airport, $12,000; gasoline, $64,718, and insurance, $59,002.

Although not admitting that all of the increased expenses claimed were necessary, counsel for the Postmaster General directed his objection to consideration thereof to the failure of North American to present evidence with respect to anticipated offsetting increases in revenue. Upon cross examination the latter's witness admitted that the management had planned its program for the future on the basis of a normal increase of approximately 10 per cent in passenger revenues. However, the general traffic manager testified that in October, 1937, the failure of such expectation to materialize caused him to direct a special inquiry into the causes thereof. Upon further questioning he stated that the solution of such problems was to discover and correct the causes if possible rather than to retrench immediately. It was admitted, however, that some increase in revenue is both hoped for and expected. In this connection it must be noted that a program of equipment replacement to provide increased capacity can be justified in advance only on an assumption that the increased capacity will be required to accommodate prospective traffic.

Base mileage. In order to maintain a reasonable relation between service performed and the charges therefor, the rates in *Air Mail Compensation, supra,* were established on a basis designed to change in inverse ratio to changes in volume and frequency of service. North American did not criticize the reasonableness of the basis adopted in general, but questioned the results of its application in the present instance. Because of the comparatively small additional mileage resulting from the new segmentary schedule authorized effective July 16, 1937, as compared with the extensive operations conducted by the contractor, any resulting reduction of unit cost is said to be almost too insignificant for mathematical computation.

It is further alleged that peculiar circumstances have subsequently arisen causing results not contemplated by the decision in *Air Mail Compensation, supra,* North American contended (1) that with the present base mileage the additional mail-pay authorization produces a total monthly mail compensation less than would have been received under the old authorizations and (2) that the base mileage became inadequate upon the authorization, subsequent to the date of its establishment, of extensive weight-credit service. The latter contention was particularly stressed at the oral argument by counsel for Eastern Air Lines, Inc. (new company). The record shows that the reduction in total monthly compensation subsequent to the inauguration of the additional mail-pay schedule was largely due to the effect of the additional mileage on the average monthly load, thus eliminating or reducing the poundage bonus provided for by the act, rather than to the effect of the scale. The effect of merely increasing the base mileage to include the extensive new weight-credit service would be to change the relationship between the pay miles flown and the base mileage, and thus result in a rate for application to the pay miles higher than that resulting from the existing rela-

tionship. It does not follow, of course, that such increase in base mileage should be unaccompanied by a decrease in the base rate. As said on page 717 of *Air Mail Compensation, supra:* "Rates determined with relation to actual mileage and those with relation to construction mileage may well differ."

Conclusion. If all adjustments of the recorded figures were made as contended for by North American the result of operations on route No. 6 is a net operating income for the year ended October 31, 1937, of approximately $30,000. That amount does not reflect any provision for Federal income or undistributed profits taxes. However, the income would be substantially increased if a more equitable division of operating expenses between the several routes operated, the necessity for which has heretofore been discussed, were made. Although the record indicates that revenues from nonmail schedules exceeded direct aircraft operating expenses, but failed to meet a proportionate share of all expenses, no attempt was made to ascertain the number of miles flown in such service or the additional expenses occasioned thereby. With respect to the necessity of considering increased expenses in the future, the probability of increased passenger and express revenues cannot be overlooked. Furthermore, in *Air Mail Compensation, supra,* the Commission recognized that revenues from sources other than mail may not be all that such services reasonably warrant.

Of the total recorded net book value of real property and equipment, cash, and material and supplies, including motor fuel and oil, as shown on Eastern Division's balance sheet as of September 30, 1937, the parties have estimated that $714,517 should be allocated to route No. 6 operations. The adjustment of the reserve for depreciation and obsolescence of inventory, hereinbefore made, would require an increase of $22,018 in that amount. The record sustains applicant's contention that the cash balance as recorded on Eastern Division's balance sheet does not represent either its reasonable needs in that connection or the amount actually available currently under the method of divisional financing used. While we have generally not recognized goodwill as an element of value we have given recognition to going-concern value although a specific amount has not been fixed therefor.

On exceptions Eastern Air Lines, Inc. (new company), contends that the results of operations should be stated in more exact terms, that is, that the amounts involved in the adjustments referred to above should be determined and applied as adjustments to the recorded results. In addition it seeks to have an alleged profit of $18,968 from the sales of fuel, repair service and special flights eliminated from consideration in the determination of reasonable rates. However, the evidence of record is insufficient to make an exact determination of the results of operation. Moreover, it is unnecessary for the purposes of this proceeding to state the results of operation with great precision. Deficiencies in earnings alone do not conclusively establish the need for or amount of increase in mail compensation. In *Air Mail Compensation, supra,* the Commission refused to determine rates merely by deducting from the cost of operation, plus a fair return on investment, the revenues derived from sources other than mail transportation. Rate making is not an exact science and there is no mathematical test of a reasonable rate. As stated in *Air Mail Compensation, supra,* the rates must be fair alike to those rendering and those receiving the service. Furthermore, the act provides that if it shall be contended or alleged by the holder of an air

mail contract that the rate of compensation in force for the service involved is insufficient, the burden of establishing such insufficiency and the extent thereof shall be assumed by him. We think that burden has not here been sustained.

We find that the rates of compensation for the transportation of air mail by airplane and the service connected therewith over air mail route No. 6 have not been shown to be unfair and unreasonable. The petition will be dismissed.

The findings herein are without prejudice to any rates which may be fixed by the Civil Aeronautics Authority under the provisions of the Civil Aeronautics Act of 1938, which differ materially from those of the Air Mail Act of 1934.

Order

At a Session of the INTERSTATE COMMERCE COMMISSION, Division 3, held at its office in Washington, D. C., on the 15th day of September, A. D. 1938.

Air Mail Docket No. 28

Air Mail Rates for Route No. 6

Investigation of the matters and things involved in this proceeding having been made, and said Division having, on the date hereof, made and filed a report containing its findings of fact and conclusions thereon, which report is hereby referred to and made a part hereof;

It is ordered, That the petition herein be, and it is hereby, dismissed.

By the Commission, Division 3.

W. P. BARTEL,
Secretary.

(SEAL)

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKET NO. 32

Air Mail Rates for Route No. 26

Submitted July 27, 1938. *Decided September 16, 1938.*

Rate of compensation for the transportation of air mail by airplane and the service connected therewith over air mail route No. 26 found not to have been fair and reasonable. Fair and reasonable rate, as of date of filing of petition, determined and published.

John S. Wynne and *Robert W. Oliver* for petitioner.

Walter E. Kelly, Assistant Solicitor, and *William C. O'Brien*, for Postmaster General.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS MCMANAMY, MAHAFFIE, AND MILLER

BY DIVISION 3:

No exceptions were filed to the proposed report of the examiner which was served on the Postmaster General and the carrier.

The Civil Aeronautics Act of 1938, approved June 23, 1938, repeals the Air Mail Act of 1934 (excepting certain provisions), but further provides that proceedings pending before the Interstate Commerce Commission for the determination of rates for the transportation of air mail by aircraft on the date of the enactment of the Civil Aeronautics Act of 1938 "shall be continued, orders therein issued, appeals therefrom taken, and payments made by the Postmaster General pursuant to such orders, as if this Act had not been enacted."

By petition filed November 22, 1937, under the provisions of section 6(a) of the Air Mail Act of 1934, as amended, Hanford Airlines, Inc., a Delaware corporation, seeks determination of the fair and reasonable rate of compensation for the transportation of air mail and the service connected therewith over air mail route No. 26, such rate to be effective as of the date of filing of the petition. The answer of the Postmaster General denies that the present rate is not fair and reasonable, and denies our authority to fix and determine a reasonable rate from the date of filing of the petition, or from any date other than one subsequent to the order herein. The Postmaster General also, by petition, which was denied, and by motion made at the hearing, requested that an examination of the carrier's books, accounts, records, and expenditures be made and a report thereof furnished him pursuant to the direction of sections 6(b) and 10 of the act, as amended, before hearing on the issue of the reasonableness of the rate of compensation. An audit under section 6(b) is not a condition precedent to the determination of the reasonableness of rates under section 6(a). *Air Mail Rates for Route No. 31,* 214 I. C. C. 387. Moreover, prior to the hearing a report of an audit of the carrier's books, accounts, records, and expenditures for the period from the beginning of operations to March 31, 1937, was made to the Postmaster General as directed by section 10, and a supplemental report of a similar audit for the period from April 1 to June 30, 1937, was transmitted to him while hearing was in progress. Tentative reports under section 6(b) based upon these audits were served at approximately the same time as the section 10 reports. In Air Mail Docket No. 39, *Hanford Airlines, Inc.-Hanfords Tri-State Airlines, Inc., Rate Review, 1934-1937,* decided June 14, 1938, we found that no unreasonable profit was derived or accrued from the rate of compensation for the transportation of air mail by airplane over route No. 26 for the period June 1, 1934 to June 30, 1937.

Contract for the carriage of air mail on route No. 26 was awarded by the Postmaster General to Hanfords Tri-State Airlines, Inc., petitioner's predecessor, and was assigned to petitioner with the approval of the Postmaster General effective July 1, 1936. In *Air Mail Compensation,* 206 I. C. C. 675, pursuant to the direction of section 6(a), base rates of compensation per airplane mile were fixed for the transportation of mail loads of 300 pounds or less, computed monthly upon the average mail load carried per mile, for all domestic air-mail routes then being operated, subject to the following proviso, as amended in 222 I. C. C. 602, 608:

> The base named for each route shall be used only for the mileage named for that base and shall be (1) progressively decreased 1 cent upon each increase in the number of airplane miles actually flown with mail each month which equals 10 per cent of the mileage named for that base, * * * *Provided,* That where the mileage named in the table

> is substantially the monthly equivalent of one daily round trip over the entire route, the base named for that mileage shall not be decreased until the miles actually flown with mail each month equal 180 per cent of the mileage named, but shall, after the miles actually flown with mail each month equal 180 per cent of the mileage named, be decreased, as herein provided, upon each increase of 10 per cent in the mileage named over 180 per cent of the mileage named.

The rate for route No. 26 was fixed at 32 cents with a base mileage of 50,000 per month.

At the time of that decision route No. 26 extended from St. Paul, Minn., to Kansas City, Mo., with intermediate stops at Minneapolis, Minn., Sioux Falls, S. Dak., Sioux City, Iowa, Omaha, Nebr., and St. Joseph, Mo. At Sioux Falls a lateral line extended to Bismarck-Mandan, N. Dak., with stops at Huron and Aberdeen, S. Dak. Petitioner's predecessor then maintained mail-passenger schedules equivalent to one round trip daily over the entire route. No exclusive passenger schedules were operated. On July 1, 1936, when petitioner assumed operation, a second mail-passenger schedule was effective between Omaha and Kansas City. Various changes in the route and schedules have since been made and additional intermediate stops have been established. In September, 1936, Minneapolis was made a terminus and the route was extended from Kansas City to Tulsa, Okla., a distance of 214 miles, by the Postmaster General, the extension being operated in weight-credit mail service on Sundays and holidays. Other weight-credit mail service was performed by petitioner at different times, but all such service was discontinued July 27, 1937. Effective February 5, 1937, Huron became the junction for the Bismarck-Mandan line. Petitioner shows that as a result of these and other changes, the route distance has been increased from 848 to 1,114 miles.[1]

While, at the time the initial rate was fixed, the base mileage of 50,000 per month was substantially the monthly equivalent of one round trip daily, at the present time the monthly equivalent of one round trip per day over the extended route is 67,768 miles. Due to the additional mail-passenger schedules authorized by the Postmaster General, the total monthly mileage on the present route is 95,297. Since this exceeds 190 per cent of the base mileage, petitioner assumes the rate would, under the scale, be decreased to 31 cents and for each additional 5,000 miles flown, would be further decreased 1 cent. This result would be accomplished only by including mileage over the Tulsa extension which was not in contemplation when the base mileage was fixed in *Air Mail Compensation, supra.* Petitioner points out that when its mileage reaches 92,031 its mail compensation at 32 cents has reached the minimum compensation under the next lower rate of 31 cents, and by reason of the provision in *Air Mail Compensation, 222* I. C. C. 602, that compensation payable under any rate determined under the scale should not exceed the minimum compensation payable under the next lower rate so determined, no compensation would be received for the mileage flown between 92,031

1. Mileage on which compensation for mail service is based does not necessarily accord with the distance actually flown. For example when Huron became the junction for the Bismarck-Mandan line, mileage flown was increased 51 miles. No pay for this mileage was received during the period February 5 to July 1, 1937. Similarly, between January 1 and February 5, 1937, Sioux City was used as a junction for the Bismarck-Mandan line because of airport conditions at Sioux Falls. This entailed an additional flight of 31 miles without compensation.

and 95,000 miles. The mileages are based upon 100 per cent performance, and while the rate of compensation has not yet been affected, due to a slightly lower performance record, petitioner believes that as it is now entering the season of high performance its operation will be around 99 per cent, with consequent reduction in its rate.

The extension of the route to Tulsa by the Postmaster General was permitted under the provisions of section 3(c) of the act, as amended. The act also provided that the rate of compensation payable on the extension of any route "shall not be in excess of the rate per mile fixed for the service thus extended." While the Postmaster General has compensated petitioner for mail service over the extension (other than the weight-credit mail service) by use of the 32-cent base rate fixed for the original route, the reasonableness of such rate for service over the extension, or for service over the extended route as a whole, has not been considered by us. See A. M. Docket No. 35, *Boston-Maine Airways, Inc., Base Rate Mileage,* decided September 6, 1938.

Petitioner shows that its net loss for the fiscal year 1937 was $106,660 and for the 7 months ended January 31, 1938, $69,838, making a total deficit of $176,498. At the commencement of its operations it had a recorded investment in real property and equipment of $61,243, with current and accrued assets of $184,740[2] and current and accrued liabilities of $3,126. On January 31, 1938, its recorded investment in real property and equipment was $263,123, less accrued depreciation of $90,785, or a net book value of $172,338. Current and accrued assets were $97,476 and current and accrued liabilities, $25,434. Operating reserves aggregated $9,581.

Petitioner took over from its predecessor two tri-motored Fords, four Lockheed Vegas, and 13 Wasp engines, purchased on various dates between 1931 and 1935. The Fords, one of the Vega planes, and eight of the engines were retired. Four Lockheed Electras, two new and two second-hand, one Waco plane equipped with Jacobs engine, which is used as a training ship, and 12 Wasp engines, were acquired. Petitioner's investment in planes and engines increased from $22,710, representing cost of equipment taken over from its predecessor, to $124,386, net book value as of January 31, 1938, compared with the investment of its predecessor at the time *Air Mail Compensation supra,* was decided, of $34,460.[3]

The Electra planes which are twin-motored and have a capacity of 10 passengers, were thought by petitioner to be the most suitable modern equipment and the most efficient type to fit its operation, meeting both requirements of the route and the Department of Commerce standards, and giving consideration also to the modern equipment used by its air-line connections and to the competition it encountered with modern streamlined equipment of the railroads, particularly between the Twin Cities and Kansas City and between Omaha and Kansas City. Both mail and passenger service have benefited by the resultant improvements in speed, efficiency, and dependability.

Petitioner's operating revenues for the fiscal year June 30, 1937, were $308,311, consisting of mail, $220,139, passenger, $80,868, express and freight, $3,410, and miscellaneous, $3,894. Its operating expenses for that year were $411,097 and taxes assignable to operations $4,055, making a deficit from operations of $106,841. For the 7-month period ended January 31, 1938, rev-

2. Footnote omitted in official copy.
3. Footnote omitted in official copy.

enues were $226,507, made up of mail $165,112, passenger, $55,953, express and freight, $2,251, excess baggage, $581, and miscellaneous services, $2,610. Operating expenses were $295,410, resulting in a net loss from operations of $68,903. Total revenues in the 1937 fiscal year were equivalent to 32.43 cents per mile flown, of which 8.51 cents came from passengers and 23.16 cents from mail, as compared with per-mile revenues of 38.57 cents received by petitioner's predecessor, of which approximately 7.24 cents came from passengers and 30.50 cents from mail. For the 7 months ended January 31, 1938, total revenue per mile was 37.47 cents, of which 9.26 cents came from passengers and approximately 27.31 cents from mail. Revenues from express and freight have been nominal due mainly to the short hauls.

Per-mile costs, including taxes assignable to operations, are shown to have been 43.67 cents for the 1937 fiscal year, and 48.86 cents for the 7 months ended January 31, 1938. These costs are compared with the predecessor's cost of 41.47 cents for the 1936 fiscal year. While expenses show generally an increase in the per-mile costs in all of the classifications into which expenses are divided by the system of accounts, the largest increases in the fiscal year 1937 over operations of the predecessor were for taxes, depreciation, and in the accounts grouped under the general head of traffic and advertising and general and administrative.

Among the factors which are set out by petitioners as having increased its cost of operation are the higher depreciation and insurance charges due to the acquisition of modern and more expensive equipment; and increase in personnel cost due to the addition of more employees and higher salaries and wages. For example, the cost per mile for pilots and copilots for the fiscal year 1936 was 5.77 cents which for the 1937 fiscal year had advanced to approximately 7.27 cents. This resulted primarily from the operation of faster planes. Pay for pilots is graduated according to the speed of the equipment flown. Agreements have also been made with its mechanics and dispatchers calling for substantial wage increases. Another item contributing to the personnel cost has been the training given the pilots, copilots, dispatchers, and radio operators with resulting increased safety and efficiency of the service. Social security taxes have augmented operating expenses. This tax became effective January 1, 1936, and under the provisions of the law will increase each year until 1949. In July, 1936, the total tax amounted to $114, whereas in January, 1938, it amounted to $619.

Since its acquisition of the route petitioner has added crash and workmen's compensation insurance which had not been carried by its predecessor. The operation of the new equipment has resulted in higher charges since rates are based on the insurable values. Monthly rentals for fields, offices, airports, etc., have likewise increased, some portion of which is due to the additional stops required by the Postmaster General.

There has been a steady growth both in the total amount of mail carried and the mail-pound miles. Petitioner shows that while its predecessor for the fiscal year 1936 carried an average of 42.84 pounds per mail-pay mile with pound miles of 30,092,190 and mail compensation of $224,301, for the fiscal year 1937, petitioner carried an average of 63.85 pounds with total pound-miles of 44,918,402 and compensation of $220,139, and in the following 7 months it carried an average of 58.53 pounds with total mail-pound miles of 30,203,680 and compensation of $165,112. Its rate of pay per mile flown with mail for the respective periods was 25.2 cents and 29.9 cents, as com-

pared with 32 cents paid its predecessor in the 1936 fiscal year. Miles flown in weight-credit service in the 1937 fiscal year were 169,386 and in the 7-month period, 35,974. Had this service been paid for at the 32-cent rate, mail compensation in the respective periods would have been $279,302 and $176,630.

The number of revenue passengers carried by petitioner's predecessor in the 1936 fiscal year was 5,214 with revenue passenger miles of 1,278,492. Passenger revenue represented 7.58 cents per revenue mile with an average distance per passenger of 245.20 miles and revenue per passenger-mile of 4.16 cents. In the 1937 fiscal year the number of revenue passengers carried by petitioner was 6,704 with revenue passenger miles of 1,631,929. Passenger revenue per mile was 9.31 cents. Distance per passenger was 243.42 miles and revenue per passenger-mile 4.96 cents. In the 7 months ended January 31, 1938, petitioner carried 5,364 passengers with revenue passenger miles of 1,341,891. Passenger revenue per mile was 10.13 cents and miles per passenger 250.16. Revenue per passenger-mile was 4.16 cents. Passenger revenues show a progressive increase. The monthly averages for the three periods, respectively, were $4,437, $6,739 and $7,993. Passenger density has also increased from 1.88 per mile for the 1937 fiscal year to 2.43 per mile in the 7-month period.

Development of petitioner's passenger traffic has been the result of intensive efforts, particularly through advertising in newspapers, periodicals, and through traffic solicitation. Petitioner reduced its passenger fares during the winter months to approximate first-class railway fares plus Pullman charges. These reduced fares were to be effective until June, at which time they would revert to the standard basis of 5 cents a mile with round-trip fares of approximately 4.5 cents a mile. The reduced winter fares were slightly less than 4 cents a mile.

Witness for the Postmaster General criticized the expense incurred by petitioner for traffic and advertising showing that expenditures in this connection exceeded passenger revenues by approximately $2,000 in December, 1937, and $1,565 in January, 1938. Expenses for traffic and advertising in those months were from $2,000 to $3,000 higher than in any preceding month and resulted principally from the increased newspaper and periodical advertising. This increased expenditure was coincident with the publication of the reduced winter fares. For the 7-month period beginning July, 1936, traffic and advertising expense represented about 50 per cent of paassenger revenues, but for the corresponding months in 1937-1938 the ratio was 63 per cent. Although the number of passengers carried increased from 4,060 to 5,364, passenger revenues per revenue mile decreased from 10.91 to 10.13 cents. Petitioner believes its winter fares were justified by railroad competition and by similar reductions made by other air lines. Until the petitioner inaugurated a direct service between Kansas City and Minneapolis via Omaha and Sioux City there was little difference between the railroad schedule and petitioner's schedule between Kansas City and Minneapolis. The schedules of the railroads are fixed to meet the convenience of the traveling public whereas petitioner's schedules are fixed to meet the convenience of the mail service. For example, trip No. 2 is required by the Postmaster General to depart from Kansas City at 5:30 a.m., for Minneapolis via Omaha. The only part of route No. 26 which is not lighted is between Minneapolis and Omaha, and that will be lighted during the present year.

Witness for the Postmaster General makes certain adjustments in the operating expenses of petitioner, totaling $9,481 for the 1937 fiscal year and $2,056 for the 6 months ended December, 1937. Certain minor adjustments relate to the accounting of proceeds of sale of buildings and equipment parts which were less than, or greater than, the net book value. The witness took the position that these items should have been entered under operating expenses on the theory that the loss or profit was attributable to the failure to make correct depreciation charges. Another exception is taken to the method of accounting for certain items recorded as organization expenses which are being amortized through operating expenses, rather than through profit and loss. Whether, under the provisions of the system of accounts prescribed by the Postmaster General, the accounting for the sale of equipment or the organization expenses should be handled through operating expense accounts or through profit and loss accounts is unimportant for present purposes. Entries in accounts cannot change facts or create income and, even when in conformity with the prescribed system of accounts, we are not precluded from inquiring into their propriety or the correctness of the results shown thereby. *Air Mail Rates for Route No. 24,* 222 I. C. C. 749.

Among the assets acquired from the predecessor company was an item of $100,000 variously referred to as goodwill, going concern value, or pioneering cost of route No. 26. Subsequent to the Tulsa extension of the route the carrier, with the permission of the Postmaster General, increased this item by $50,000. Witness for the Postmaster General contended that if the item represented the cost of pioneering the air mail extension it should be deducted from the operating expenses. The evidence does not establish however, that the item is a capitalization of expenses that had been charged to operations, but rather that it is in the nature of a goodwill item. As such, it is not an element entering into the rate base. *Des Moines Gas Company v. City of Des Moines,* 238 U. S. 153; *Missouri Pac. R. Co.,* 40 Val. Rep. 249.

The witness also challenged the service life assigned by petitioner to the new Electra planes and the Wasp engines with which they are equipped as being too short, resulting in excessive depreciation charges to operating expense. It is contended that a proper service life would be 5 years for planes and 5,000 hours for engines and that depreciation charges have been excessive to the extent of $8,433 in the 1937 fiscal year and $6,372 for the succeeding 6-month period.[4] The adjustments produce a total deficit from operations of $89,106 as of June 30, 1937, and of $49,067 as of December 31, 1937. The witness pointed out that the two Electra planes purchased second-hand had been in use at that time for 35 and 26 months, respectively, and that on the basis of an additional 2 years assigned them by petitioner the older planes would have a longer service life than the 4 years used for depreciating the new Electras. Similarly, 4,000 hours are being used for Wasp engines purchased new, while 5,000 hours were assigned to the Wasp engines recently purchased second-hand. Petitioner explains that the reason for the long over-all period assigned to second-hand equipment is due to the fact that there is a certain "proved performance" on such equipment. The price paid for the second-hand Electras was approximately one-half of the cost new, and the rate of depreciation was based on the price paid.

4. Based on residual values of $1,000 for Electras, $200 for Vegas, $50 for Wasp C and $200 for Wasp Jr., engines, adopted by petitioner and made effective in February, 1938.

There has been a tendency in the industry to assign comparatively short lives to aircraft. In *Air Mail Compensation*, 216 I. C. C. 166, we found that a service life of 3 years for Electras used by Northwest Airlines, from whom petitioner made its purchases, was probably too brief and, in *Air Mail Rates for Braniff Airways, Inc.*, 226 I. C. C. 752, that depreciation of Lockheed Electras on a 3-year basis was too low and that this type of equipment should be regarded for the purpose of section 6 of the act as having a service life of at least 4 years. Other decisions indicate that depreciation charges on Lockheed Electras are based on a service life of 4 years and 3,000 hours for each engine.[5] *Air Mail Rates for Route No. 24, supra; Chicago and Southern Air Lines, Inc., Rate Reviews, 1935-1936*, 223 I. C. C. 535, 543.

The 4-year period used by petitioner is generally consonant with the present practice of other air lines using this type of equipment. The question is not what use the previous owners may have assigned the equipment but what period of use the petitioner may expect from the equipment, having due regard not only to wear and tear and to obsolescence, but also to safety and the attraction of the traveling public. Many factors such as the constant development and improvement of aircraft and the striving towards increased safety and convenience for the traveling public influence air-line operators in adopting a comparatively short service life for equipment. It is believed, however, that in estimating life expectancy it is desirable to resolve doubts in favor of a longer rather than a shorter life. *Air Mail Compensation, supra*, page 179. The effect of an adjustment of depreciation to a base of 5 years for the new Electras and to 5,000 hours for the Wasp engines would merely reduce the deficit from operations by about $9,000 per annum.

Based upon revenue miles flown the Postmaster General shows per-mile operating revenues for the fiscal year 1937 of 35.30 cents, with adjusted operating expenses including depreciation charges, of 45.50 cents, a net deficit of 10.20 cents. For the succeeding 6-month period revenues per revenue mile flown are 40.83 cents, and adjusted expenses including depreciation charges, 50.96 cents, a net deficit from operations per revenue mile of 10.13 cents.

In addition to the 168,137 shares of stock of $1 par value issued to the predecessor company in payment for property and equipment, petitioner issued additional stock which totaled as of June 30, 1937, 393,137 shares of a total authorized capitalization of 400,000 shares, to enable it to purchase needed equipment and to provide working capital. Other than the stock held by petitioner's predecessor, all of the issue has been taken by the executive vice president. Due to continued losses petitioner in November, 1937, found itself without sufficient funds to operate. Accordingly, the par value of the stock was reduced from $1 to 35 cents per share and one-half of the 393,137 shares outstanding were returned for resale. The authorized capitalization was further increased to 600,000 shares, making a total of 403,431 shares available for sale. The executive vice president purchased all of the stock, except 32,004 unissued shares, at a price aggregating $129,999.

Petitioner anticipates that it will be necessary within the next year to replace one of the Electras purchased second-hand. Such a plane equipped for air line use will cost approximately $55,000. Four of the engines pur-

5. Wright engines.

chased second-hand with the planes will also have to be replaced and the manufacturers have indicated that an increase in price ranging from $500 to $1,000 per engine may be expected. Such an increase would make a total expenditure for engines in the neighborhood of $10,000.

The communication equipment which was taken over from the predecessor company and rebuilt is also rapidly becoming obsolete and in need of replacement. This will necessitate an expenditure of approximately $20,000. It is the desire of petitioner also to give its pilots the training for blind flying afforded by the Link trainer which is used by air lines generally. The Link trainer costs approximately $5,000, although it might be possible for petitioner to rent one from some of the other air lines. Petitioner thus estimates that it is faced with an expenditure of some $90,000 for equipment within the next few years.

As stated in *Air Mail Compensation, supra,* page 723, the reasonableness of rates for the transportation of mail by airplane must be determined with relation to the service actually performed. The service which petitioner is now rendering on route No. 26 has changed materially from that considered by the Commission when the rate of 32 cents was fixed. Passenger service is required by the Postmaster General and that requirement compels the acquisition and operation of equipment superior to that which would be required if the mail were flown without passengers. The equipment which petitioner is now operating is adapted to meet the reasonable requirements of the route. Increased expenses made necessary following the extension authorized by the Postmaster General to Tulsa, the improvements in facilities, and the higher standards of safety and efficiency of both equipment and personnel have not been met by increased revenue. Some improvement will be effected by the elimination of the weight-credit service for which petitioner has received no compensation. However, the net result for the 6 months following July, 1937, when all mail schedules were put on a pay basis, does not indicate that revenues will be sufficient to meet operating expenses. Continued operating losses make it increasingly difficult for petitioner to finance necessary improvements. The air-transport industry is one in which the highest possible standards of safety must be maintained.

We find that the rates of compensation for the transportation of air mail by airplane and the service connected therewith over route No. 26, as now extended, were not fair and reasonable from and after November 22, 1937, the date of the filing of the petition herein, and that subjct to the provision of section 3(f) of the act the fair and reasonable rates of compensation for each airplane mile actually flown with 300 pounds of mail or less, and the service connected therewith, were, are, and will be rates determined by applying the provisions of the Commission's order in *Air Mail Compensation, supra,* as amended, to a base rate of 33⅓ cents per airplane mile for a base mileage of 67,000 miles per month.

The findings herein are without prejudice to any rates which may be fixed by the Civil Aeronautics Authority under the provisions of the Civil Aeronautics Act of 1938, which differ materially from those of the Air Mail Act of 1934.

An appropriate order will be entered.

MAHAFFIE, *Commissioner,* concurring in part:

I concur except as to the retroactive feature of the order. See 216 I. C. C. 166, 191.

Order

At a Session of the INTERSTATE COMMERCE COMMISSION, Division 3, held at its office in Washington, D. C., on the 16th day of September, A. D. 1938.

Air Mail Docket No. 32

Air Mail Rates for Route No. 26

This proceeding being at issue upon petition and answer on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been made, and said division having, on the date hereof, made and filed a report containing its findings of fact and conclusions thereon which said report is hereby referred to and made a part hereof:

It is ordered, That fair and reasonable rates of compensation for the transportation of air mail by airplane and the service connected therewith over Air Mail Route No. 26 as extended to Tulsa, Oklahoma, on and after November 22, 1937, the date of the petition herein, were, are, and will be, for each airplane mile actually flown with 300 pounds of mail or less, subject to the provisions of section 3(f) of the Air Mail Act, as amended, the rates determined by applying the provisions of the Commission's order in *Air Mail Compensation,* 206 I. C. C. 675, as amended by the Commission's order of June 14, 1937, to a base rate of 33⅓ cents per airplane mile for a base mileage of 67,000 miles per month.

By the Commission, Division 3.

W. P. BARTEL,
Secretary.

(SEAL)

INTERNATIONAL

Department Editors ..... STEPHEN LATCHFORD, SAMUEL E. GATES

CONVENTION FOR THE UNIFICATION OF CERTAIN RULES RELATING TO ASSISTANCE AND SALVAGE OF AIRCRAFT OR BY AIRCRAFT AT SEA*

ARTICLE 1. The high contracting parties agree to take the necessary measures to put into effect the rules established in this convention.

ARTICLE 2. (1) Any person exercising the functions of commanding officer aboard an aircraft shall be bound to render assistance to any person who is at sea in danger of being lost, insofar as such person may do so without serious danger to the aircraft, her crew, her passenger, or other persons.

(2) Every captain of a vessel shall be bound, under the circumstances contemplated in paragraph (1), and without prejudice to more extended obligations imposed upon him by the laws and conventions in force, to render assistance to any person who is at sea in danger of being lost on an aircraft or as the consequence of damage to an aircraft.

(3) For the purposes of this convention, assistance shall mean any help which may be given to a person who is at sea in danger of being lost, even by merely giving information, consideration being given to the different conditions under which maritime navigation and air navigation operate.

(4) The obligation of assistance shall not exist unless the aircraft or the vessel is in the course of a trip or ready to depart, and unless it is reasonably possible for it to render useful aid.

(5) The obligation of assistance shall cease when the person who is under such obligation becomes aware that assistance is being rendered by others under similar or better conditions than it could be by himself.

(6) The national legislations shall determine the penalties designed to insure the execution of this obligation, and the high contracting parties shall communicate to each other through diplomatic channels the texts of such laws.

(7) No liability can rest with the owner or the *armateur* of the vessel or with the owner or operator of the aircraft, as such, by reason of failure to discharge this obligation, except in the case where he shall have ordered the person bound to render assistance not to render it.

ARTICLE 3. (1) Any assistance rendered in discharge of the obligation contemplated in the foregoing article shall call for an indemnity based on the expenses justified by circumstances, as well as on the damage suffered in the course of the operations.

(2) If the assistance was rendered in the absence of any obligation to do so, the assister shall have no right to indemnity unless he has obtained a useful result by saving persons or by contributing thereto.

(3) The indemnity shall be payable by the operator of the aircraft assisted or by the owner or *armateur* of the vessel assisted in accordance with the rules of the national laws or of the contracts governing such vessel.

---

* Translation submitted by the American Delegation to the Fourth International Conference on Private Air Law (diplomatic conference), held at Brussels, September, 1938, of the French texts furnished by the secretariat of the conference of this and the following convention and resolutions.

The convention, which will remain open for signature until June 30, 1939, has, according to information furnished by the secretariat of the conference, been signed on behalf of the following countries: United States of America, Belgium, Czechoslovakia, Denmark and Iceland, France, Germany, Great Britain and Northern Ireland, Guatemala, India, Italy and Ethiopia, Netherlands, New Zealand, Poland, Rumania, San Marino, and Switzerland.

(4) The indemnity cannot exceed the sum of 50,000 francs per person saved and, if no persons have been saved, the sum total of 50,000 francs.

In any case the obligation of the aircraft operator shall be limited to the sum of 500,000 francs.

The amounts fixed in this paragraph shall be considered as referring to the gold franc containing 65½ milligrams of gold of a standard of fineness of 900/1000. They may be converted into each national currency in round numbers.

Furthermore, the owner or *armateur* of the vessel shall not be liable beyond the limits determined by the existing laws and conventions governing his obligation in matters of maritime assistance and salvage.

(5) (*a*) In case there has been assistance by several vessels or aircraft, and the total sum of the indemnities due exceeds the limit fixed in the foregoing paragraph (4), a proportional reduction of the indemnities shall be made.

(*b*) In such a case the salvors must assert their rights or give notice of their claims to the person who is liable for the indemnity within the maximum period of 6 months from the day of the assistance.

(c) After this period, settlement of the indemnities may properly be made; the interested parties having permitted the above-mentioned period to elapse without asserting their rights or giving notice of their claims may exercise their rights only as to the amount which shall not have been distributed.

ARTICLE 4. (1) In case of assistance and salvage of the aircraft at sea in danger of being lost or of the things that are on board, the ship or aircraft which shall have rendered assistance shall be entitled to remuneration to be determined on the following bases:

(*a*) First, the measure of success obtained, the efforts and deserts of those who have rendered assistance, the danger run by the aircraft assisted, by her passengers, her crew, and her cargo, by the salvors and by the salving aircraft or vessel, the time consumed, the expenses incurred, and the losses suffered, and the risks of liability and other risks run by the salvors, the value of the property risked by them, consideration being given to the special adaptation, if any, of the assister;

(*b*) Secondly, the value of the things salved.

(2) No remuneration is due if the services rendered have no useful result.

(3) The remuneration can never exceed the value of the property salved at the conclusion of the operations of assistance or salvage.

(4) Remuneration is due even when the aircraft or the vessels belong to the same operator or to the same owner or *armateur*.

(5) In case there has been assistance or salvage by several vessels or aircraft, the remuneration shall be divided among them on the bases established in paragraph (1) of this article.

(6) The same rules shall apply in case of assistance or salvage at sea, by an aircraft, of a vessel in danger, or of her cargo, in which case the owner or *armateur* of the vessel shall retain the right to avail himself of the limitation of his liability, as determined by existing laws and conventions governing maritime salvage and assistance.

ARTICLE 5. In case indemnities or remuneration are due under articles 3 and 4 of this convention, an equitable distribution shall be made of expenses incurred and of losses suffered, upon the bases and within the limits set forth in the said articles.

ARTICLE 6. Any distribution of remuneration between the operator and the personnel of the aircraft shall be governed by the national laws.

ARTICLE 7. In case there has been both assistance and salvage of persons and of property, the salvor of persons shall be entitled to a fair share of the remuneration granted for the salvage of property, without prejudice to the right to indemnity which he has under article 3.

ARTICLE 8. (1) No indemnity or remuneration shall be due if the assistance was rendered or the salvage effected in spite of express and reasonable prohibition to do so by the one who was assisted or salved.

(2) The court may reduce or deny the indemnity or the remuneration if it appears that the salvors have, by their fault, rendered the assistance or the salvage necessary or increased the loss, or if they were guilty of theft, concealment, or other fraudulent acts.

ARTICLE 9. (1) The remuneration due for the operations of assistance or salvage shall be payable by the operator of the assisted aircraft, or by the owner or *armateur* of the assisted vessels, in accordance with the national laws or with contracts governing the vessel.

(2) The operator of the aircraft shall have a recourse against the owners of goods for such part of the remuneration as pertains to assistance and salvage of such goods. However, this recourse shall be denied or reduced if it appears that the assistance or the salvage of the goods has been rendered necessary by an act of the operator of such a nature as to render him liable to the owners of such goods.

(3) The owner of the goods may, in all cases, by paying such part of the remuneration as pertains to assistance or to salvage of his goods, or by depositing suitable security for such payment, obtain the delivery of the goods by the operator and the release of any goods that may have been attached.

(4) The recourse of the owner or of the *armateur* of the vessel against owners of goods shall remain subject to maritime rules.

ARTICLE 10. Neither the personal effects and baggage of the crew and passengers, nor articles transported under the regime of postal conventions or of agreements relating to the postal service, shall be included in the property, either for the purpose of calculating the remuneration or in respect of the recourse to be exercised.

ARTICLE 11. Indemnity and remuneration actions must be brought within 2 years from the end of the operations of assistance or salvage.

(2) The recourse of the operator against the owners of goods shall be barred after a period of 1 year beginning with the date of the payment of the remuneration for assistance or salvage.

(3) The method of calculating the limitation period, as well as the causes of suspension and interruption of such period, shall be determined by the law of the court before which the case is brought.

ARTICLE 12. Any agreement for assistance or salvage entered into at the time and under the influence of danger can, at the request of one of the parties, be annulled or modified by the court if the court considers that the conditions thereof are not equitable, and particularly when the remuneration is excessively large or small and out of proportion with the services rendered.

ARTICLE 13. (1) Actions for indemnity or remuneration shall, at the election of the claimant and in conformity with the rules of procedure and of jurisdiction of each state, be brought either before the courts of the territory where the defendant is domiciled, or before those of the territory where the operations of assistance or salvage were carried out, or, if the aircraft or the cargo have been attached, before the courts of the place of attachment.

(2) If different salvors bring action in jurisdictions located in different countries, the defendant may, before each one of them, produce a statement of the aggregate amount of the claims and moneys due, with a view to preventing the limits of his liability from being exceeded.

ARTICLE 14. Any person who has the right to use an aircraft and who uses it for his own account shall be termed "the operator of the aircraft." In case the name of the operator is not recorded on the aeronautic register or on any other official document, the owner shall be deemed to be the operator, subject to proof of the contrary.

ARTICLE 15. Any person who, without having the right to use an aircraft, uses it without the consent of the operator shall be liable for the indemnities and remuneration, and the operator who has not taken reasonable

precautions to avoid unlawful use of his aircraft shall be liable jointly and severally with him, each one of them being bound within the conditions and the limits provided for in the foregoing articles.

ARTICLE 16. This convention shall, with the reservation of the provisions of article 13 relative to jurisdiction, apply to government vessels and aircraft, with the exception of military, customs, and police vessels or aircraft, to which the rights and obligations flowing from the foregoing provisions shall not apply.

ARTICLE 17. (1) The provisions of this convention shall apply with respect to all interested parties when either the assisting or salving vessels or aircraft or the assisted or salved vessel or aircraft is registered in the territory of one of the high contracting parties.

(2) The expression "territory of a high contracting party" shall include any territory subject to the sovereign power, the suzerainty, the protectorate, mandate or authority of the said high contracting party in behalf of which the latter is a party to the convention.

(3) Provided, however:

(*a*) That with respect to interested parties who are nationals of a non-contracting state, the application of the said provisions may be conditioned by each one of the contracting states upon reciprocity;

(*b*) That when all the interested parties are nationals of the same state as that of the court before which the case is brought, the convention shall not be applicable;

(*c*) That in case vessels and aircraft are engaged in the same operation of assistance, this convention shall not apply to relations between vessels.

ARTICLE 18. The present convention shall be drawn up in French in a single copy which shall remain deposited in the archives of the Ministry for Foreign Affairs of the Kingdom of Belgium, and of which a duly certified copy shall be sent by the Government of the Kingdom of Belgium to each one of the Governments concerned.

ARTICLE 19. (1) The present convention shall be ratified. The instruments of ratification shall be deposited in the archives of the Ministry for Foreign Affairs of the Kingdom of Belgium, which shall notify each one of the Governments concerned of the deposit thereof.

(2) As soon as five ratifications shall have been deposited, the convention shall come into force as between the high contracting parties which shall have ratified it, 90 days after the deposit of the fifth ratification. Any ratification which is deposited subsequently shall take effect 90 days after such deposit.

(3) It shall be the duty of the Government of the Kingdom of Belgium to notify each one of the Governments concerned of the date on which the present convention comes into force.

ARTICLE 20. (1) The present convention, after coming into force, shall be open for adherence.

(2) Adherence shall be made through a notification addressed to the Government of the Kingdom of Belgium, which shall so inform each one of the Governments concerned.

(3) The adherence shall take effect 90 days after the notification to the Government of the Kingdom of Belgium.

ARTICLE 21. (1) Each one of the high contracting parties may denounce the present convention by a notification addressed to the Government of the Kingdom of Belgium, which shall at once so inform each one of the Governments concerned.

(2) The denunciation shall take effect 6 months after the notification of the denunciation and shall operate only with respect to the party making the denunciation.

ARTICLE 22. (1) The high contracting parties may, at the time of signature, deposit of the ratification, or adherence, declare that the acceptance which they give to the present convention shall not apply to all or to any

part of their colonies, protectorates, overseas territories, mandated territories, or any other territory under their sovereignty, authority, or suzerainty.

(2) The high contracting parties may subsequently notify the Government of the Kingdom of Belgium that they intend to render the present convention applicable to all or to any part of their colonies, protectorates, overseas territories, mandated territories, or any other territory under their sovereignty, authority, or suzerainty, so excluded from their original declaration.

(3) They may, at any time, notify the Government of the Kingdom of Belgium that they intend to have the present convention cease to apply to all or any part of their colonies, protectorates, overseas territories, mandated territories, or any other territory under their sovereignty, authority, or suzerainty.

(4) The Government of the Kingdom of Belgium shall inform each one of the Governments concerned of notifications made in accordance with the last two paragraphs.

ARTICLE 23. Each one of the high contracting parties shall be entitled not earlier than 2 years after the coming into force of the present convention to call for the meeting of another international conference in order to consider any improvements which may be made in the present convention. To this end it shall communicate with the Government of the French Republic, which shall take the necessary measures in preparation for such conference.

The present convention, done at Brussels on September 29, 1938, shall remain open for signature until June 30, 1939.

IN WITNESS WHEREOF the plenipotentiaries have signed the present convention.

ADDITIONAL PROTOCOL TO THE CONVENTION FOR THE UNIFICATION OF CERTAIN RULES RELATING TO DAMAGES CAUSED BY AIRCRAFT TO THIRD PARTIES ON THE SURFACE, SIGNED AT ROME, MAY 29, 1933*

ARTICLE 1. The insurance of the aircraft operator, as provided for under article 12 of the Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third Parties on the Surface, must produce the following effects with respect to the injured third parties:

(1) The insurer may, in addition to the defenses available to the operator and without prejudice to any recourse he may have against the insured, interpose only the following defenses against claims based upon the application of the said convention:

(a) The damage occurred after the insurance ceased to have effect.

Nevertheless, the guaranty of the insurer shall be continued, in case the insurance lapses during a trip, until the next landing supervised by public authority, provided that such continuation shall not exceed 24 hours. In all other cases than that in which the insurance ceases to have effect by reason of expiration of the term thereof, the guaranty of the insurer shall be continued until effective withdrawal of the certificate of insurance by the proper authorities, but not beyond 15 days after notification by the insurer to the proper authorities of the state where the certificate was issued.

(*b*) The damage occurred outside of the territorial limits provided for by the insurance contract, unless flight outside of such limits was caused by *force majeure,* the fact of assistance justified by circumstances, or an error in piloting, in the handling of the aircraft, or in navigation.

---

* Adopted at the Fourth International Conference on Private Air Law (diplomatic conference), Brussels, September, 1938.

According to information furnished by the secretariat of the conference the protocol, which will remain open for signature until June 30, 1939, has been signed by the following countries: United States of America, Belgium, Brazil, Czechoslovakia, Denmark and Iceland, France, Germany, Great Britain and Northern Ireland, Guatemala, India, Italy and Ethiopia, Luxemburg, Netherlands (*ad referendum*), New Zealand, Poland, Rumania, San Marino, and Switzerland.

(*c*) The damage is the direct consequence of international armed conflict or the direct consequence of civil disturbances.

From the point of view of the application of clauses (*a*) and (*b*), third parties may, where there is a discrepancy between the statements in the certificate of insurance or in the aircraft papers, and the stipulations of the insurance contract, avail themselves of the statements in the certificate or in the said papers as to the duration of the insurance contract and as to its territorial extent.

(*2*) Excepting the above-mentioned defenses, the insurer may not, with respect to third parties, avail himself of any grounds of nullity or of any right of retroactive cancelation.

(3) In case the person of the operator is changed during the life of the insurance contract, the insurer shall remain liable to injured third parties, as if the transfer had not taken place, provided that the duration of such obligation shall not extend beyond 7 days from the time when the insurer notifies the proper authorities of the state where the insurance certificate was issued that the insurance has terminated.

ARTICLE 2. (1) This protocol shall form an integral part of the Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third Parties on the Surface, concluded at Rome on May 29, 1933.

(2) Beginning with the date on which this protocol is signed, ratification of the above-mentioned convention shall imply ratification of this protocol. However, the high contracting parties shall be authorized to ratify both of those acts simultaneously by separate instruments.

(3) Ratification of the convention and of the protocol, either by separate instruments or by a single instrument, shall not result in creating obligations toward any other than the high contracting parties having taken the same action.

ARTICLE 3. (1) This protocol is drawn up in French, in a single copy, which shall remain open for signature until June 30, 1939.

(*2*) A certified copy of this protocol shall immediately be sent to the high contracting parties, through the intermediary of the Belgian Government and through diplomatic channels.

(3) Upon the expiration of the period of time mentioned in paragraph (1), the original of this protocol shall be transmitted by the Belgian Government to the Italian Government, so that it may be deposited and preserved in the archives of the Ministry of Foreign Affairs of Italy.

ARTICLE 4. This protocol shall be ratified. The instruments of ratification of this protocol, in the cases provided for by the second part of paragraph (*2*) of article 2, shall be deposited in the archives of the Ministry of Foreign Affairs of the Kingdom of Italy, which shall send notice thereof to each one of the interested Governments.

ARTICLE 5. Adherence to the Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third Parties on the Surface, concluded at Rome on May 29, 1933, shall imply adherence to this protocol, with the effect stated in paragraph (3) of article 2.

ARTICLE 6. The high contracting parties may not denounce this protocol without denouncing the convention of which it is an integral part.

IN WITNESS WHEREOF, the plenipotentiaries have signed this protocol.

RESOLUTIONS ADOPTED BY THE FOURTH INTERNATIONAL CONFERENCE ON PRIVATE AIR LAW, HELD AT BRUSSELS, SEPTEMBER, 1938*

(From the Final Act of the Brussels Conference)

I

After their deliberations, the above-listed delegates agreed to submit the following texts for the signature of the respective plenipotentiaries of the high contracting parties:

* See footnote, p. 281.

(*a*) A Draft of Convention for the Unification of Certain Rules Relating to Assistance and Salvage of Aircraft or by Aircraft at Sea;

(*b*) A Draft of Protocol Supplementing the Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third parties on the Surface.

The said drafts are to remain open for signature until June 30, 1939.

II

(A) The conference,

urgently recommends that the states which have already ratified the Rome convention expedite ratification of the supplementary protocol mentioned in paragraph (*b*) of section I, above.

(B) The conference,

considering that it has prepared a protocol to determine the conditions of application of article 12 of the International Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third Parties on the Surface, concluded at Rome on May 29, 1933,

considering that the protocol has been declared an integral part of the convention to which it refers,

considering that this protocol stipulates that in the future the Rome convention may not be ratified without ratifying simultaneously the protocol itself,

recommends,

that, beginning with this date, the Italian Government as the depository of the instruments of ratification of and adherence to the above-mentioned Rome convention, not accept any ratification of that convention unless it carries with it at the same time the ratification of the protocol, either in the same act or by a separate act.

(C) The conference,

considering the increasing progress of transoceanic air traffic and the importance therein of the amount of aerial postal matter.

recommends,

that the C.I.T.E.J.A., in the interest of the unification of private air law, place on its agenda the question of the contribution by interested parties in the payment of remuneration for assistance, examining in particular the question of the extent to which postal payments should be made to contribute.

(D) The conference,

considering that the convention signed at Warsaw on October 12, 1929, for the unification of certain rules relating to international transportation by air has been in force for several years as between numerous countries,

considering the importance of preserving harmony between international conventions and the ever increasing developments of aviation,

considering the usefulness of the preparatory collaboration by the International Technical Committee of Aerial Legal Experts,

charges the International Technical Committee of Aerial Legal Experts with the duty of making a study of the Convention signed at Warsaw on October 12, 1929, for the Unification of Certain Rules Relating to International Transportation by Air, with a view to determining whether, from the experience acquired in the application of this convention, it would be necessary to improve the text thereof, and, if so, with the duty of preparing the desired modifications or amendments in the form of a draft.

(E) The conference,

realizing the importance and usefulness of the preparatory work done by the C.I.T.E.J.A., and renewing the recommendation already expressed at Rome by the Third Diplomatic Conference on Private Air Law,

recommends,

that all Governments represented at the present conference join the C.I.T.E.J.A. in the interest of assisting in the task of unification of laws assigned to the C.I.T.E.J.A.

III

(F) The conference,

not having been able, by reason of the multiplicity of new proposals and the lack of time available, to undertake a careful examination of the draft of the Convention for the Unification of Certain Rules Relating to Aerial Collisions, which had been submitted to the conference, decides to refer consideration of this draft to the next diplomatic conference. Furthermore, in view of the fact that several states have submitted remarks and proposals on that draft, the conference decides to refer these remarks and proposals to the C.I.T.E.J.A., so that the latter may study them and, possibly, also prepare new proposals to be submitted to the Fifth International Conference on Private Air Law

THIRTEENTH SESSION OF THE INTERNATIONAL TECHNICAL COMMITTEE OF AERIAL LEGAL EXPERTS (CITEJA), HELD AT BRUSSELS ON SEPTEMBER 28, 1938

THE HONORABLE

THE SECRETARY OF STATE.

Sir:

In my capacity as a member of the American Section of the International Technical Committee of Aerial Legal Experts (CITEJA), I attended the Thirteenth Session of this Committee, which was held at Brussels on September 28, 1938.

In view of the fact that the Fourth International Conference on Private Air Law (diplomatic conference) was held at Brussels from September 19 to September 30, 1938, and the fact that many of the members of the CITEJA were also delegates to that conference, the CITEJA did not find it convenient at its Thirteenth Sesstion to follow the usual procedure of acting upon draft international conventions on subjects of private air law prepared in preliminary form by the CITEJA Commissions (subcommittees). However, the CITEJA disposed of a number of routine matters, including the appointment of one of its members as the new president for the term of 1938-1939; the approval of the minutes of the Twelfth Session; and the approval of the annual report of the Secretary General. The CITEJA also heard the oral reports of the Reporters for the various Commissions, setting forth the status of the subjects under consideration by these Commissions.

New CITEJA President

As its new president, the Committee appointed Mr. Pholien, Avocat Général, before the Brussels Court of Appeals. Mr. Pholien had been Chairman of the Belgian Delegation to the Fourth International Conference on Private Air Law and President of that Conference.

Budgetary Matters

The Conference adopted two resolutions, one approving the expenditures made by the Secretariat General for the fiscal year ending December 31, 1937, and the other approving an estimated budget of expenditures for the fiscal year ending December 31, 1939.

The Committee also adopted a resolution fixing the dues of each participating State, for the fiscal year of 1939, at one thousand gold francs, each containing 327½ milligrams of gold of a fineness of 900/1000.

ASSIGNMENT OF NEW SUBJECTS TO COMMISSIONS

The Committee decided to undertake the study of the following subjects:

(a) The effect of court decisions.

This relates to the jurisdiction of the courts under the various private air law conventions and the legal effects of the courts' decisions.

The Warsaw Convention, in particular, was mentioned in this connection. This subject was assigned to the First Commission.

(b) The revision of the Convention for the Unification of Certain Rules Relating to International Transportation by Air, signed at Warsaw on October 12, 1929, to which the United States and a number of other countries are parties.

This subject was assigned to the Second Commission.

(c) Mortgages and other real rights and aerial liens with respect to aircraft.

A draft convention on this subject was adopted by the CITEJA at its Sixth Plenary Session in Paris, in October, 1931. This draft convention was never referred to a diplomatic conference for final adoption, and in view of the time that has elapsed since its preparation, the CITEJA has decided to review the draft. This subject was assigned to the Second Commission.

(d) Ownership of aircraft and aeronautic register.

The CITEJA decided to review a draft convention on this subject which was adopted by the CITEJA at its Sixth Plenary Session held in Paris in October, 1931, but was never referred to a diplomatic conference.

(e) Allocation of judgment awards.

This is understood to relate to the matter of allocating the awards resulting from the decisions of the courts under the various private air law conventions. This subject was assigned to the First Commission.

(f) Aviation insurance.

The CITEJA assigned to the Third Commission the study of the general subject of aviation insurance, as related to the several private air law conventions.

CONTINUATION OF THE WORK OF THE THIRD AND FOURTH COMMISSIONS

Third Commission

The Third Commission was requested to continue its study of the draft convention on assistance and salvage of aircraft on land (not yet referred to a plenary session of the CITEJA), and in connection with this study to consider the possible adaptation to this draft convention of the language of certain provisions of the convention relating to assistance and salvage of aircraft or by aircraft at sea, which had been adopted and signed at the Fourth International Conference on Private Air Law (diplomatic conference) held at Brussels in September, 1938. The preliminary draft of the sea salvage convention was adopted by the CITEJA at its Eleventh Plenary Session, held at Bern, Switzerland, in September, 1936, and that draft was submitted to the Fourth International Conference on Private Air Law for the action of that conference.

Fourth Commission

This Commission was requested to continue its work on the draft convention relating to the legal status of the aeronautic navigating personnel.

The question whether this draft will ultimately be combined with a draft convention on the legal status of the aircraft commander adopted provisionally at a plenary session of the CITEJA in Paris in October, 1931, will be decided at a future plenary session of the CITEJA.

It will be observed that the CITEJA plans to undertake the study of several very important subjects. These studies will include not only a continuation of work on several proposed international conventions, but the preparation of texts on several new subjects. Although not specifically mentioned in connection with the Thirteenth Plenary Session of the CITEJA, held at Brussels, it is to be noted that the delegates to the Fourth International Conference on Private Air Law held at Brussels in September, 1938, adopted resolutions calling upon the CITEJA to take up the study of the following additional questions:

(1) The contribution by interested parties in the payment of remuneration, in connection with salvage operations, examining in particular the question of the extent to which postal payments should be made to contribute.

(2) Proposed convention on aerial collisions.

With reference to item No. (2) above, it may be said that the CITEJA adopted a draft convention on aerial collisions at its Eleventh Plenary Session held at Bern, Switzerland in September, 1936. This draft was referred to the Fourth International Conference on Private Air Law, which decided not to proceed with the adoption of a convention on aerial collisions, but to refer the matter to the CITEJA for further consideration.

In view of the broadening of the scope of the work of the CITEJA, it is believed to be very desirable that the American Section undertake at an early date to give very serious consideration to the several subjects to be dealt with by the CITEJA, having in mind the bearing which these matters will have upon American aircraft engaged in international traffic.

Future Meetings

The CITEJA decided that its Commissions would meet in Paris about January 20, 1939, and that it would hold its Fourteenth Plenary Session during the latter half of September, 1939, at a place to be determined.

Address by Mr. G. Grant Mason, Jr., Chairman of the American Delegation to the Fourth International Conference on Private Air Law, delivered to the CITEJA.

As stated above, many of the members of the CITEJA were delegates to the Fourth International Conference on Private Air Law (diplomatic conference). The members of the American Delegation to the Fourth International Conference were making preparations to leave Brussels when the CITEJA met on September 28, 1938. Mr. Mason appeared at the CITEJA session and delivered an address in which he again expressed on behalf of the American Delegation to the diplomatic conference appreciation of the many courtesies that had been extended to the Delegation, and expressed his best wishes for the success of the CITEJA.

In reply, the President of the CITEJA thanked the American Delegation for the friendly spirit which it had shown both during the diplomatic conference and the session of the CITEJA, and expressed the hope that those present would meet the members of the American Delegation again.

Respectfully submitted,

STEPHEN LATCHFORD, *Chairman,*
American Section of the CITEJA.

January 9, 1939

AIR TRANSPORT SERVICES BETWEEN THE UNITED STATES AND FRANCE

The American Embassy in Paris was instructed on January 6, 1939, after consultations between the Department of State and the Civil Aeronautics Authority, to present to the French Government a proposal for the granting to the Government of the United States of a permit for a temporary period of six months for one or more American air transport companies, authorized by the Civil Aeronautics Authority, to operate a trans-Atlantic air service to France for the transportation of passengers, mail and goods.

The Embassy at Paris has now reported that the French Government has granted the temporary permit requested, subject to the conditions set forth by the Embassy in presenting the American note.

In presenting the proposal of this Government to the French Foreign Office, the Embassy, under instructions of the Department of State, informed the French Government that pursuant to the provisions of the Civil Aero-

nautics Act any American Company, before being permitted to undertake a trans-Atlantic air service from the United States, must first obtain a certificate of public convenience and necessity from the Civil Aeronautics Authority. The belief was expressed that one or more American companies will be prepared, subject to the receipt of proper authorization from the Civil Aeronautics Authority, to commence trans-Atlanic air service within the near future. The permit was requested for use by any American company or companies duly authorized by the Civil Aeronautics Authority to operate a trans-Atlantic service into and out of France authorizing a frequency of not exceeding four round trips per week for a period of six months from the date of the first flight.

On its part the Government of the United States is willing, in the event an application should be made to it by the Government of France for similar operating rights and such application should be denied, that the permit granted to the Government of the United States might be cancelled. Assurances were given the French Government that immediately upon the issuance of a temporary permit this Government would be willing to enter into negotiations with the French Government for the conclusion of a reciprocal air transport agreement, with the understanding, however, that such negotiations would not prejudice the operation of the trans-Atlantic services which the temporary permit contemplated.

AIR TRANSPORT SERVICES BETWEEN THE UNITED STATES AND GREAT BRITAIN

Under date of December 23, 1938, the American Embassy in London was requested to make an inquiry of the British Foreign Office as to when it would be possible to inaugurate regularly scheduled trans-Atlantic air transport services. The Embassy was requested, in this connection, to ask for information on the following two points:

1. Is the British company presently prepared to begin scheduled operations to the United States?

2. If not, is there any objection to the inauguration by Pan American Airways of a service to England during the coming spring?

The formal reply of the British Government, as set forth in a note dated January 28, 1939, is as follows:

"Imperial Airways will, it is hoped, be in a position to begin a scheduled seasonal service of an experimental character from the United Kingdom to the United States as from June 1st next. The route to be followed will be:

Southampton—Shannon—Botwood—
Montreal—New York

The service will at first in all probability be once weekly in each direction, the frequency being increased to twice weekly as and when that proves technically possible. This plan will constitute the full programme of Imperial Airways' North Atlantic operations during 1939, except possibly for one or two experimental flights in addition.

"If Pan-American Airways are ready to start a scheduled service across the North Atlantic before the date of June 1st next, and desire to depart from the principle hitherto observed of simultaneous action with Imperial Airways in the development of North Atlantic services, His Majesty's Government would not wish to raise any objections and would be prepared to waive to this extent the provisions of condition H of the permit issued to the United States company. It is understood

that Imperial Airways for their part are in complete agreement with the attitude of His Majesty's Government in this connexion.

"His Majesty's Government assume that if the contingency should arise in which Imperial Airways wished to start their Trans-Atlantic operations before Pan-American Airways were ready to open their North Atlantic Service, the Government of the United States would be equally ready to adopt vis-à-vis Imperial Airways an attitude precisely similar to that indicated in the preceding paragraph.

"Finally His Majesty's Government would be grateful if they could be given details regarding the intentions of Pan-American Airways similar to those furnished above in respect of Imperial Airways."